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1949

DAIRY STATISTICS

PAN AMERICAN COUNTRIES.

B. H. Rawl,  
Chief, Dairy Division.  
Compiled by T. R. Pirtle.

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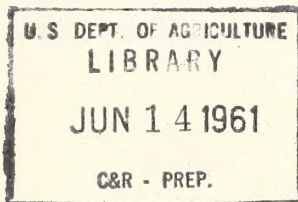
PAN AMERICAN

COUNTRIES //

B. H. Rawl,

Chief, Dairy Division.

Compiled by T. R. Pirtle,



1918 2



## DAIRY INDUSTRY IN ARGENTINA.

## General Conditions.

Argentina possesses a large number of suitable cattle, a good climate, rich natural pastures, numerous artificial pastures, many ways of communication on seas, rivers, and land, several railroads belonging to the State, so that no other country is found in better condition to undertake the exploitation of the dairy industry to the extent of this country. To gain this result it is only the question of will, and therefore, they have adopted for this work the motto: "To will and to be able," referring to the ease with which the country will be able to occupy the leading position in the international market of dairy products, if the leading men consent.

The dairy industry of this country, after having reached a certain degree of prosperity in the period of 1902-1905, has gone backward to some extent. However, the number of cows in the country have increased in number as shown by the agricultural census of 1908, which gives: breeding cows 12,925,904, heifers 3,511,412, young stock 4,687,027 and milk cows 2,165,900; as compared with 1,600,799 milk cows in 1895.

The total value of dairy products in normal years approaches 19,000,000 pesos. (?)

## Cattle.

The cattle of Argentina are composed of native (creole) (44%), grades (52%), for crossing (3%) and pedigreed (.5%). The principal breeds being Durham, Hereford, Polled Angus, Jersey, Fiamande, Swiss and Hollandaise. (See Table \_\_\_\_)

The importation of live cattle was very small from 1870 to 1881 when the number reached 4,000 for the year, however, the importation was always irregular reaching its highest mark in 1895. (See Table \_\_\_\_)

General Conditions.

Argentina possesses a large number of suitable cattle, a good climate, with natural pastures, numerous artificial pastures, many ways of transport, access to seas, rivers, and land, numerous railways belonging to the State, no lack of other country in form in better condition to undertake the exploitation of the dairy industry to the extent of this country. It is this that it is only the question of will, and therefore, they have adopted for this work the motto: "To will and to be able," referring to the case with which the country will be able to occupy the leading position in the international market of dairy products, it is the leading man country.

The dairy industry of this country, after having reached a certain degree of prosperity in the period of 1902-1905, has gone backward to some extent. However, the number of cows in the country have increased in number as shown by the agricultural census of 1907, which gives breeding cows 12,622,904, heifers 2,311,412, young stock 2,627,027 and milk cows 2,122,909; as compared with 1,250,739 milk cows in 1905.

The total value of dairy products in normal years approaches 12,000,000 pesos.

Cattle.

The cattle of Argentina are composed of native (creoles) (54%), crossed (55%), for crossing (5%) and pedigree (5%). The principal breeds being German, Rotterdam, Polish Angus, Jersey, Friesian, Swiss and Holsteinian.

(See Table \_\_\_\_)

The importation of live cattle was very small from 1870 to 1911 when the number reached 4,000 for the year, however, the importation was always increasing reaching its highest mark in 1922. (See Table \_\_\_\_)

Very few of the dairy breeds have been imported.

The exportation of live cattle has always been small, the number not reaching 500,000 in any year.

The yield of the Argentine cows, in the manner in which she is kept, cannot be more attractive. The cows are always on pasture and do not receive concentrated feed hence the yield of butter cannot be high. The quality of butterfat varies with the season. In the spring, on account of the new pasture and the lactation period, the milk is not so rich but the yield increases up to July. No fixed rule can be laid down, because the year has periods of scarcity and of abundance of pasture, and on the other hand watering and skimming are also practiced by the farmer.

Among the creole cows are found excellent milkers and some give more than 30 liters (8.3 gals.) a day. Dr. Porrazzani in one of his works mentions that he has assisted on a farm in the neighborhood of Tucuman at the milking of 30 cows, mostly half-breed Durkams, and ascertained that the highest yield on the day of his visit was 25 liters (6.63 gals.) rendered by a "change" cow. These may be exceptional cases or they may show the value of selection.

Dr. E. Lachete in his report for 1923 indicates that, according to the data gathered by the office, the average production by the milk cows of the country amounts to 2 liters and 250 grams, (about a gallon) with a yield of 3.8% butterfat, and that it took 23 liters of milk to make a kilo of butter, or 2.3 gallons of milk per pound of butter.)

The cow of the province of Buenos Aires is a great butter producer, but in the provinces of Santa Fe, Cordoba, Corrientes, and Entre Rios, there are establishments where cows yield 5 to 6.5% of butterfat. The Division of Agricultural Statistics and Rural Economics gives the following:

The amount of milk in liters is very variable in urban establishments. The cows yield from 15 to 20 liters (3.95 to 5.3 gallons); the cows in the



rural establishments on the average yield from 6 to 7 liters (1.59 to 1.85 gallons), but it is not difficult to find cows with a daily average of 20 to 30 liters (5.3 to 7.95 gallons.) The country cows which are milked render very variable amounts, some overseers claiming that their cows render a bucket (bilde) of milk daily, but on the other hand, the period of lactation only lasts for 3 or 4 months, which reduces the annual yield.

### Factory Conditions.

The total number of dairy firms in Argentina has risen from 524 in 1903 to 1,309 in 1913, consisting of dairies, creameries, cheese factories and mixed enterprises (See Table \_\_\_\_), but the whole industry is still in its early stages. Really intensive dairying does not yet exist and cannot exist as the large open grazing tracts and the lack of suitable labor as well as the thin population making the country in its present condition unsuitable for the development of the industry. At 1.40 the Government has seemed disposed to pay more attention to the question of dairying, and the recently founded "Oficina de Industria Lactera y Refrigeracion," which forms a part of the ministry of Agriculture, is beginning to show some activity. On its initiative the first milk control association has been instituted at "Germania" (headed by Controller de la Produccion Lactera de Germania, with help from the River Plata Dairy Company (a large company of English and Argentine specialists), which possesses in the provinces of Buenos Aires, Santa Fe, Corrientes, and Entre Rios, 4 creameries driven by steam and a capital of \$50,000 pesos gold (\$100,000). It makes butter, cream, and cheese and exports just at the butter factories.

Since 1895 there have been established several butter factories besides importing houses interested in introducing butter-making machinery. The principal dairy is Granja Nacion, with nearly 2,000 cows in two herds. This estab-



lishment sells pasteurized, waterized, and sterilized milk as well as condensed milk, kefir, natural milk, butter, cheese and soap. This plant has a capacity of 8 tons of butter a day.

As to the machinery employed in the dairy industry in Argentina, it is of the most perfect, and the butter prepared by it is in London listed as 1st class, after the Danish, French, New Zealand, and Dutch products, but the price is always higher than that of Siberia and Australian butter.

The dairy industry is most concentrated in the provinces of Buenos Aires, Santa Fe, Corrientes and Entre Rios. Also within this zone there are ports and departments which, although they have greater numbers of cows, have not a single dairy plant. Other provinces have a sufficient number of cattle for undertaking dairy industry, but nevertheless, they have no importance in that respect. The rural territory is sufficiently divided to give place for dairying but as a rule, it is not the owners who exploit the establishment, as many of the owners are living in the capital or in foreign countries on the rents produced by the properties.

#### Dairy Industry.

Until the year 1894 the limited manufacture of butter and cheese in the country did not permit any appreciable exportation of these products. That year the export business made some progress in the adjoining countries, and also it witnessed the first exportation to England and France.

While the consumption of butter remained about stationary, from 1900 to 1908, the exportation of butter decreased about 2,500 tons between the years 1901 and 1908.

The condensed and waterized milk used for consumption, largely imported, has increased in quantity very rapidly and in 1913 the importation was 960,000 pounds, while in 1900 there was no importation of this product. As far as cheese and condensed milk are concerned the country has been less able to meet the home consumption demands each year.

Factories have increased in all the provinces, principally Buenos Aires, and Santa Fe.



### Milk and Sanitary Inspection.

The sanitary inspection of milk which exists in the country <sup>is having great</sup> dairy industries has not been organized as thoroughly as it should be in Argentina. Certain municipalities, such as Buenos Aires, Rosario, Mendoza, Cordoba, and some others have established obligatory tuberculin tests of cows of urban farms, but no attention has been paid to the hygienic condition of the alienation of the milk cow, the suckling, or the manipulation and transportation of the milk.

The tuberculin test of the urban animals has been and is in some places a source of prejudice against the farmers, owing to the poor application which has been made of this method of diagnosis. So far the sanitary authorities have agreed to perform the operation on infected farms. Tuberculosis having been diagnosed in a milk cow the farmer shall be ordered to remove it from the farm, and if not, to slaughter it without any indemnity whatever.

In the municipality of Buenos Aires, at the instance of Dr. Baldomero Sauer, there was pushed into effect in February, 1910, an ordinance promulgated December 12, 1907, declaring obligatory the hygienic treatment of milk intended for consumption at the Capital. The ordinance provided for hygienic treatment of milk intended for which, after having been filtered, has been pasteurized or sterilized or boiled or perhydrated or naturalized.

As far as mortality among infants is concerned, says Dr. Pedro Berge, the milk is to blame in 80% of the cases. The mortality among infants in the Argentine is truly enormous. In certain provinces of the North, such as Tucuman, Santiago del Estero, Catamarca, etc., in some years the mortality reaches the proportions of 40 to 50% of the infants born during the year.

(See Table \_\_\_\_\_)



During the period of three years, 1906-1908, in the richest provinces of the country, where the hygienic conditions are the best, more than a third of the infants died owing to the deficient lacteal alimentation.

In Buenos Aires the influence of pasteurization has been considerable in direction of decreasing mortality among infants. The Marton and the Grange Farms were the first firms after 1897 to prepare pasteurized milk. The mortality among infants in 1889 was 19.3% of the children below one year and in 1909 the official statistics of Buenos Aires records a percentage of 9.9% of the infants of the same age.

#### Consumption.

It is estimated that considering the population of Argentina at 8,000,000 and that 4,000,000 live in towns and cities, that the daily consumption of milk is  $\frac{1}{2}$  liter (.50 ~~lit~~ pt) which is a little less than the mean consumption of Buenos Aires, will amount to 2,000,000 liters (1,000,000 qt.) per day for the city consumption of whole milk. Dr. Flemer calculated in 1897 that the daily consumption of milk in La Plata was  $\frac{1}{2}$  liter per inhabitant (1.25 pt).

#### Cheese.

The domestic market for cheese is very important. The cheese of the country is good. There is cheese of crude making, imitations of Holland, Ganyere, Patognas, Chester, etc., which as to quality and flavor are little behind those of the countries of origin. Besides these there are some national products, as Tafi and Goya, which are excellent, and prepared more rationally might result in great profit. The cheese of sheep milk is made only at one establishment (in Loberia) and is a good imitation of cow's cheese.

Rogersfort and Romano, cow cheeses, which are very acceptable in the country are made of sheep's milk but in some parts, owing to the scarcity of sheep's milk there is added 10, 20 and 30% cow's milk.



### Discouragements.

The droughts have at times been mentioned as a great drawback against the country in the development of dairying. The partial droughts at certain seasons has no great influence on the production, for example, in 1909, after the serious drought experienced during the preceding fall and winter by the provinces of Buenos Aires and Entre Rios, the export of butter exceeded that of 1908 by 448 tons.

Lack of cooperation can only be explained in part. In the countries of the Latin race, there has been much delay in the establishment of cooperative dairies, and the importance of the same is not understood, on account of the lack of discipline, as may be noted in France. With Argentinean cooperative societies are little in vogue, first for the same reason as in France, and secondly, on account of the poor results they have given, owing to speculation. The few which have been established.

As far as the farmers are concerned the most of them are leaguers with spirit means, little informed, and suspicious, for good reasons, owing to the exploitation which he has been the object, wherefore the free cooperation, even when based on an official programme will give poor results.

### Dairy Regulations.

The office of Dairy Industry and Refrigeration was created January, 1911.

August 20, 1915, the province of Buenos Aires passed a law making hygienic treatment of milk obligatory in all cities of more than 10,000 population.

Five societies were formed for the economical control of dairy productions.

By decree of December 17, 1915, national inspection was promulgated for the inspection of dairy products to prevent adulteration.

This article was compiled Jan., 1916, from the following articles:  
(Statistical of Dairies, by Emilio Labella, Director General, Min. of Agric. of Argentina, Buenos, 1914)  
(The Dairy Industry of the Argentine Republic, by Dr. Pedro Barros, "Anales de la sociedad rural, March 2 April, 1916, p-1")



# ARGENTINA — CATTLE TRADE.

1870

1880

1890

1900

1910

1920

(SPECIAL)

HUNDRED THOUSAND

8

6

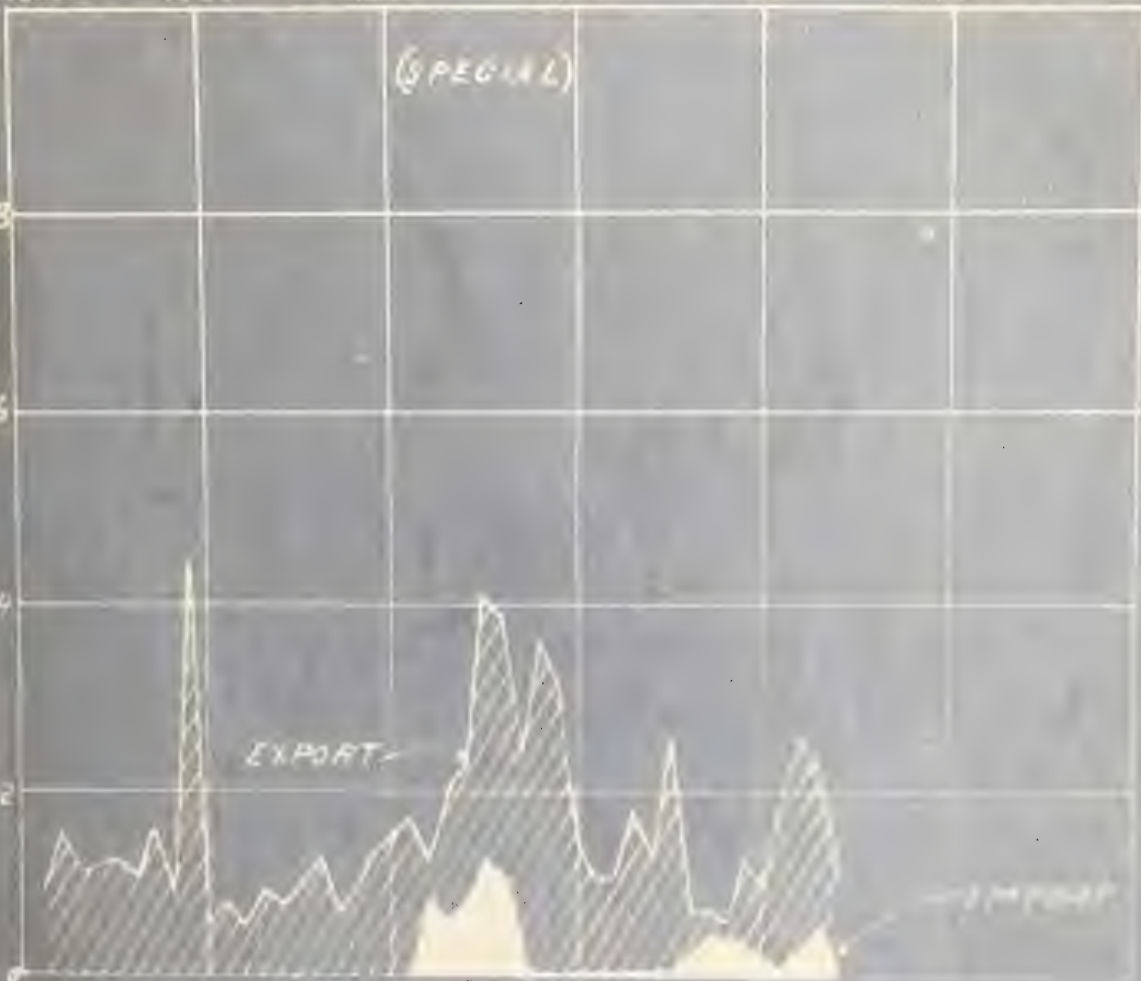
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EXPORT

IMPORT





# ARGENTINA - BUTTER TRADE

1870

1880

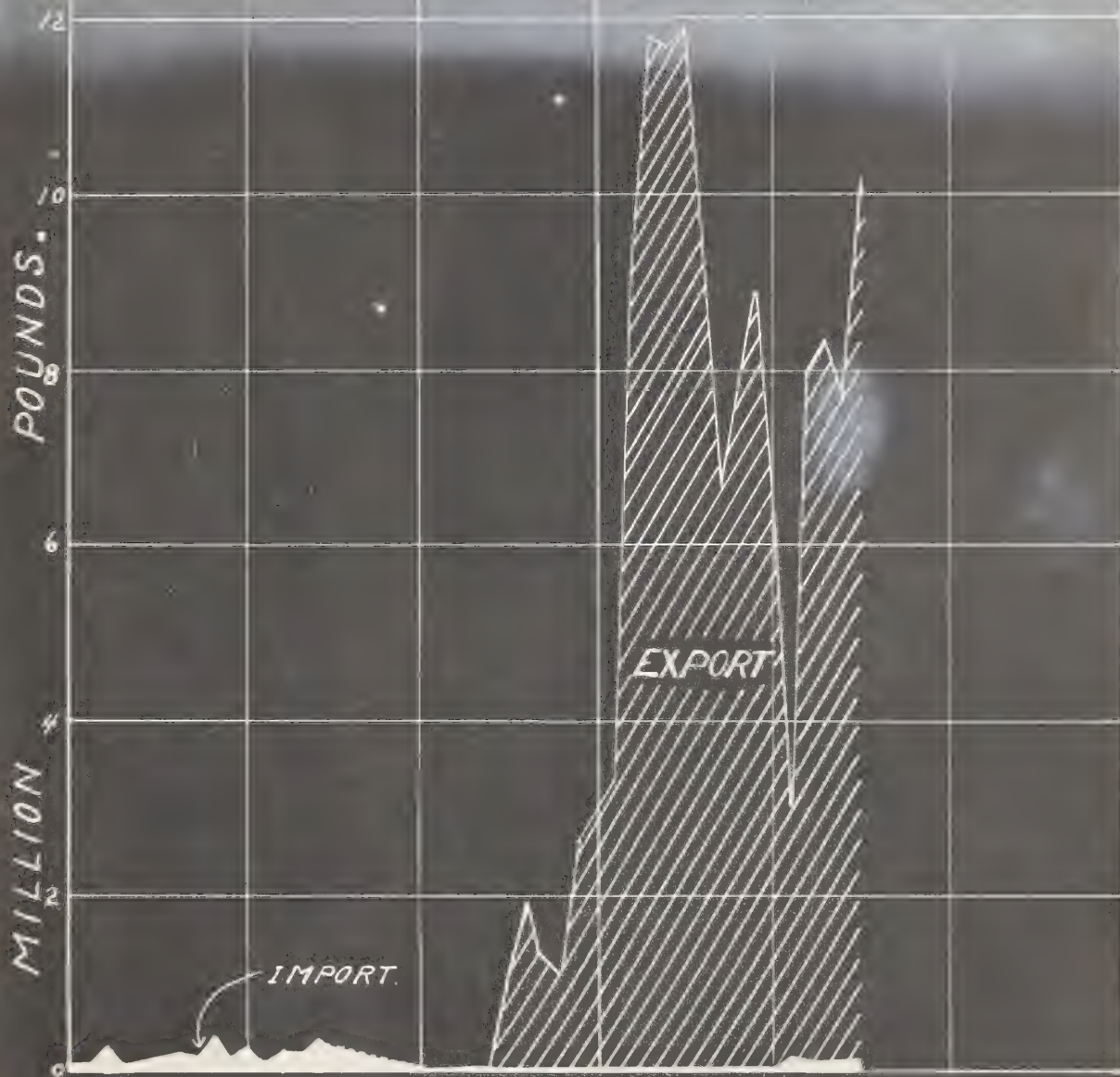
1890

1900

1910

1920

(SPECIAL)





# ARGENTINA - CHEESE TRADE.

1879 1880 1890 1900 1910 1920

MILLION POUNDS.

(SPECIAL)

EXPORT

IMPORT





**Cattle:**

Table \_\_\_\_\_. Number of dairy cows and total cattle.  
(Official reports and Report 109, Dept. Agr. U.S.A.)

Year.	Dairy cows.	Total cattle.
1888	1	21,963,950
1898	2	21,701,526
1908	3	29,116,625
1909*	X	27,824,509
1910*	X	28,827,900
1911*	X	28,786,168
1912*	X	X
1913	X	28,500,000
1914	X	28,500,000
1915	X	X
1916		50,793,417**
1917		
1918		
1919		
1920		

(1) Census. (2) Census May 10. (3) Census May 20.  
(\* ) Year ending Dec.31. (\*\* ) Mo.Bul.Pan-am. Apr.1917.

Table 2. Diversification of cattle by grades. (1908 Census)  
(Inter. Natl.Institute,Rome, 1910)

	Heifers.	Bulls.	Young cattle.	Breeding cows.	Milk cows.	Total cattle.
With pedigree	12,434	15,424	15,189	50,132	50,504	112,736
For crossing	108,700	77,412	111,040	327,822	85,196	872,111
Grades	1,831,339	276,082	3,037,143	6,832,982	856,579	13,060,446
Native	1,518,930	517,562	1,533,845	5,354,958	1,236,821	13,971,282
Total	5,511,412	686,450	4,687,027	12,825,904	2,153,900	29,116,625

Table 3. Numbers of the several kinds of cattle.  
(Inter.Natl.Inst.Rome,1910.) (1908 Census)

	B u l l s.			Cows for Breeding.			Cows for milk.		
	Pedigree Cross			Grades Pedigree Cross			Grades. Pedigree Cross Grades.		
Durham	11,157	33,621	520,152	36,721	500,359	6,343,592	4,332	44,570	759,216
Hereford	1,556	6,808	25,383	4,437	41,711	449,213	239	1,197	22,937
Pol.Angus	1,652	2,197	5,429	4,026	10,700	81,096	43	2,047	9,767
Red.Fellad	25	31	49	20	779	660	40	70	38
Jersey	30	51	103	371	507	561	20	36	403
Flamande	42	38	41	10	40	101	65	236	2,261
Suisse	34	75	157	89	432	300	273	52	569
Hollandaise	54	205	445	37	1,239	6,386	60	1,160	11,557
Unidentified	720	4,209	23,123	4,431	31,926	340,919	392	2,725	22,731
Total	15,424	77,412	276,082	50,132	327,822	6,832,982	6,504	85,196	856,579



# ARGENTINA.

## Cattle:

Table 4. Number of cattle imported from various countries during the period from 1880 to 1907. (Official)

From.	Number.	From.	Number.
England	14,477	Germany	158
France	588	Italy	62
Belgium	525	Holland	50
United States	169	Spain	48
Other countries	10		

Table 5. Number of cattle, sheep and goats in each province. (Argentine Bal. Socy. of Agric. Sept. 1912, p. 642)

	P r o v i n c e s .					Tierra
	Chubut.	Buenos.	Rio Negro.	Santa Cruz.		del Fuego.
	C a t t l e .					
1908	534,555	193,728	279,429	25,329		11,851
1912	"Acable"	293,770	379,312	55,442		14,726
	S h e e p .					
1908	2,125,628	672,957	4,724,844	2,387,546		1,542,851
1912	x	1,099,181	8,476,993	4,946,677		2,564,073
	G o a t s .					
1908	21,943	176,919	76,698	14		53
1912	(not given)					

Amount of cash on hand at the beginning of the year (12/31/10) \$100,000

Account	Debit	Credit	Balance
Cash		100,000	100,000
Accounts Receivable	100,000		100,000
Accounts Payable		100,000	100,000
Inventory	100,000		100,000
Fixed Assets	100,000		100,000
Equity		100,000	100,000

Amount of cash on hand at the end of the year (12/31/11) \$100,000

Account	Debit	Credit	Balance
Cash		100,000	100,000
Accounts Receivable	100,000		100,000
Accounts Payable		100,000	100,000
Inventory	100,000		100,000
Fixed Assets	100,000		100,000
Equity		100,000	100,000

Amount of cash on hand at the end of the year (12/31/12) \$100,000

Imports and Exports.

Cattle:

Table 6. Number of cattle imported and exported.  
(Official reports)

Year. Cattle imported. Cattle exported.

1870	205	x
1871	340	93,741
1872	x	163,418
1873	x	118,306
1874	---	x
1875	x 4	129,346
1876	4	109,726
1877	x	169,445
1878	39	86,308
1879	53	442,573
1880	807	55,258
1881	4,784	84,639
1882	17,571	53,995
1883	51,040	92,523
1884	3,544	78,455
1885	2,007	96,175
1886	1,463	128,405
1887	942	70,707
1888	4,527	94,726
1889	628	139,637
1890	562	150,003
1891	103	171,105
1892	62,982	125,458
1893	6,414	210,645
1894	7,951	220,490
1895	126,046	408,126
1896	111,809	382,539
1897	1,336	230,121
1898	957	359,296
1899	2,183	312,150
1900	1,776	150,550
1901	1,338	119,139
1902	6,619	118,303
1903	5,212	181,860
1904	11,036	129,275
1905	7,574	262,681
1906	22,416	71,106
1907	44,419	74,841
1908	39,761	60,916
1909	35,948	132,450
1910	x	89,733
1911	10,368	184,112
1912	x	261,416
1913	57,809	224,911
1914	11,408	115,556
1915		
1916		
1917		
1918		
1919		
1920		



Table 7. Number and kinds of cattle imported for breeding purposes. (Estat. Agric. 1918)

Year.	Durham.	Hereford.	Polled Angus.	Red-Polled.	Shorthorn, red.	Jersey.	Flemande.	Aberdeen.	Swiss.	Holland.	D. Keny (*)	All others.	Total.
1900	800	14	8	2	110	1	4	2	1	1	1	1	445
1901	29	1	2	4	1	1	1	1	1	1	1	1	36
1902	32	6	4	7	7	1	1	1	1	1	1	1	56
1903	572	81	38	12	1	1	1	1	1	1	1	1	683
1904	1,124	20	26	14	1	7	1	1	1	1	1	2	1,193
1905	1,360	56	19	4	1	13	1	1	1	1	1	10	1,462
1906	2,180	93	116	27	1	23	1	1	1	3	1	2	2,444
1907	1,219	43	40	3	1	16	1	1	1	1	1	9	1,343
1908	645	27	13	16	1	12	1	1	1	1	10	13	740
1909	656	24	41	5	1	11	1	1	1	1	9	37	755
1910	559	99	14	7	1	7	1	1	1	60	1	52	660
1911	207	13	17	14	1	1	1	1	1	1	1	1	234
1912	283	16	16	1	1	1	1	1	1	11	1	1	326
1913	918	29	22	35	1	15	1	1	1	36	1	144	1,235
1914	566	8	22	1	1	1	1	1	1	1	1	1	586
1915													
1916													
1917													
1918													
1919													
1920													

NOTE: It is probable that the "D. Keny" breed should be "Ferry Dexter", but the records for a number of years gives it as it appears in the table.

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1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	
1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	
1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	
1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	1488	1489	1490	1491	1492	1493	1494	1495	1496	1497	1498	1499	1500	
1501	1502	1503	1504	1505	1506	1507	1508	1509	1510	1511	1512	1513	1514	1515	1516	1517	1518	1519	1520	1521	1522	1523	1524	1525	1526	1527	1528	1529	1530	1531	1532	1533	1534	1535	1536	1537	1538	1539	1540	1541	1542	1543	1544	1545	1546	1547	1548	1549	1550	1551	1552	1553	1554	1555	1556	1557	1558	1559	1560	1561	1562	1563	1564	1565	1566	1567	1568	1569	1570	1571	1572	1573	1574	1575	1576	1577	1578	1579	1580	1581	1582	1583	1584	1585	1586	1587	1588	1589	1590	1591	1592	1593	1594	1595	1596	1597	1598	1599	1600	
1601	1602	1603	1604	1605	1606	1607	1608	1609	1610	1611	1612	1613	1614	1615	1616	1617	1618	1619	1620	1621	1622	1623	1624	1625	1626	1627	1628	1629	1630	1631	1632	1633	1634	1635	1636	1637	1638	1639	1640	1641	1642	1643	1644	1645	1646	1647	1648	1649	1650	1651	1652	1653	1654	1655	1656	1657	1658	1659	1660	1661	1662	1663	1664	1665	1666	1667	1668	1669	1670	1671	1672	1673	1674	1675	1676	1677	1678	1679	1680	1681	1682	1683	1684	1685	1686	1687	1688	1689	1690	1691	1692	1693	1694	1695	1696	1697	1698	1699	1700	
1701	1702	1703	1704	1705	1706	1707	1708	1709	1710	1711	1712	1713	1714	1715	1716	1717	1718	1719	1720	1721	1722	1723	1724	1725	1726	1727	1728	1729	1730	1731	1732	1733	1734	1735	1736	1737	1738	1739	1740	1741	1742	1743	1744	1745	1746	1747	1748	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769	1770	1771	1772	1773	1774	1775	1776	1777	1778	1779	1780	1781	1782	1783	1784	1785	1786	1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	1797	1798	1799	1800	
1801	1802	1803	1804	1805	1806	1807	1808	1809	1810	1811	1812	1813	1814	1815	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	
1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	
2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	
2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278																							

# ARGENTINA.

## Factories:

Table \_\_\_\_\_. Number of milk product factories in Argentina.  
(Official reports)

Year.	Dairies.	Creameries.	Cheese factories.	Mixed factories.	Total.
1903	224	14	48	38	324
1905	232	25	78	40	375
1906	271	18	68	37	394
1907	406	29	85	56	576
1908	529	29	76	85	719
1909	545	18	111	185	859
1910	611	11	169	369	1,160
1911	398	19	158	329	1,104
1912	516	8	128	367	1,219
1913	462	9	131	325	1,227 *
1914					
1915					
1916					
1917					
1918					
1919					
1920					

(\*) 364 not operating.

Year	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900
1916	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1915	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1914	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1913	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1912	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1911	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1910	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1909	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1908	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1907	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1906	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1905	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1904	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1903	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1902	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1901	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1900	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

# ARGENTINA.

## Imports and Exports:

Table \_\_\_\_\_. Imports and exports of milk products.  
(Official reports)

Year.	Butter.		Cheese.		Condensed milk.	
	Imports.	Exports.	Imports.	Exports.	Imports.	(no exports)
	\$	\$	\$	\$	\$	\$
1870	103,001	x	1,222,217	x	x	x
1871	110,508	x	977,729	4,947	x	x
1872	303,139	x	1,280,645	54,643	x	x
1873	26,005	40	1,400,080	52,252	x	x
1874	x	x	x	x	x	x
1875	162,257	x	2,274,532	x	x	x
1876	201,250	x	87,157	13,142	x	x
1877	179,681	x	645,444	1,997	x	x
1878	408,501	5,223	1,311,661	3,103	x	x
1879	174,739	22,256	759,734	4,777	x	x
1880	240,777	8,721	1,252,457	3,104	x	x
1881	76,358	4,113	1,420,122	16,980	x	x
1882	254,192	220	1,634,477	1,254	x	x
1883	211,637	x	1,325,921	x	x	x
1884	532,666	x	2,292,772	x	x	x
1885	x	x	2,224,671	x	x	x
1886	x	x	2,320,595	x	x	x
1887	x	x	3,743,325	x	x	x
1888	x	x	3,480,980	x	x	x
1889	x	x	3,646,578	x	x	x
1890	x	x	2,620,504	x	x	x
1891	x	2,910	340,505	243,595	x	x
1892	2,612	22,376	700,366	110,522	x	x
1893	234	61,341	1,230,517	45,567	x	x
1894	1,334	42,990	1,126,151	20,431	x	x
1895	487	1,033,954	1,339,922	132,525	x	x
1896	119	1,950,946	1,607,503	50,540	x	x
1897	5,403	1,322,122	1,767,362	25,600	x	x
1898	331	1,139,233	1,929,322	2,526	x	x
1899	362	2,600,817	2,413,000	12,136	x	x
1900	x	x	3,023,723	1,837	x	x
1901	x	3,229,000	2,266,000	2,225	82,106	
1902	225	3,024,000	2,612,000	12,374	40,212	
1903	x	11,750,944	2,437,321	3,529	89,123	
1904	x	11,672,157	2,662,122	x	90,719	
1905	297	11,810,046	2,234,615	6,120	137,613	
1906	1,367	9,712,077	7,304,670	223	293,320	
1907	1,133	6,691,241	7,202,747	2,094	326,210	
1908	730	7,223,671	3,383,237	2,204	343,137	
1909	x	3,302,442	2,224,733	x	331,621	
1910	1,375	6,341,653	9,536,041	609	x	
1911	150,175	3,077,522	10,243,500	11,419	772,230	
1912	x	3,103,747	11,342,927	4,231	x	
1913	x	3,342,900	11,122,295	16,136	942,103	
1914	x	7,676,417	3,423,242	7,771	250,610	
1915	x	10,191,866	7,202,924	13,544	x	
1916						
1917						
1918						
1919						x
1920						x



Imports and Exports:

Table \_\_\_\_\_. Exportation of casein and preparation.  
(Bul. of Agric. Can. 1914, Dr. Adolfo Garcia, Min. of Agric.)

Year.	pounds.
1902	207,595
1908	4,557,087
1909	6,117,106
1910	6,553,621
1911	4,724,267
1912	7,717,125
1913	7,397,042
1914	6,448,455
1915	
1916	
1917	
1918	
1919	
1920	

TRADE WITH THE UNITED STATES.

Imports:

Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	Butter		Cheese.		Condensed milk.	
	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.
1911	x	x	x	x	90	7
1912	x	x	x	x	x	x
1913	x	x	x	x	2,700	225
1914	500	140	x	x	11,192	958
1915	7,052	266	132	26	41,414	3,597
1916	500	89	1,257	241	208,870	18,344
1917						
1918						
1919						
1920						

Total export of milk powder from 1911 to 1917 was - - - - 1,245 lbs.  
Cream exported in 1912 was - - - - 221,261  
" " 1913 " - - - - 57,154

Production:

Cream, 1911, - - - - 21,504,170 lbs.  
1912, - - - - 37,455,642 "  
Casein, 1912, - - - - 11,590,039 "

COUNTY OF \_\_\_\_\_

Know all men by these presents, that \_\_\_\_\_ of the County of \_\_\_\_\_ State of Texas, for and in consideration of the sum of \_\_\_\_\_ Dollars, to \_\_\_\_\_ in hand paid by \_\_\_\_\_ the receipt of which is hereby acknowledged, have granted, sold and conveyed, and by these presents do grant, sell and convey unto the said \_\_\_\_\_ of the County of \_\_\_\_\_ State of Texas, all that certain \_\_\_\_\_

ACRES OF LAND

situate in the \_\_\_\_\_

Section \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_

Said Land is bounded as follows:		Said Land is bounded as follows:		Said Land is bounded as follows:		Acres
North	East	South	West	North	East	
_____	_____	_____	_____	_____	_____	2101
_____	_____	_____	_____	_____	_____	2102
_____	_____	_____	_____	_____	_____	2103
_____	_____	_____	_____	_____	_____	2104
_____	_____	_____	_____	_____	_____	2105
_____	_____	_____	_____	_____	_____	2106
_____	_____	_____	_____	_____	_____	2107
_____	_____	_____	_____	_____	_____	2108
_____	_____	_____	_____	_____	_____	2109
_____	_____	_____	_____	_____	_____	2110

Witness my hand and seal of office this \_\_\_\_\_ day of \_\_\_\_\_ 1882.

\_\_\_\_\_  
County Clerk

**Production:**  
**Butter & Cheese:**

Table \_\_\_\_\_. Production, consumption, importation and exportation of butter in Argentina. (Official Reports)

Year.	Production.	Importation.	Total.	Exportation.	Consumption.	Per capita consumption.
—	—	—	—	—	—	—
#	#	#	#	#	#	#
1901	x	x	x	3,329,000	x	x
1902	x	x	x	9,094,000	x	x
1903	19,477,924	x	19,477,924	11,780,944	7,726,979	1.53
1904	x	x	x	11,672,157	x	x
1905	19,475,271	297	19,475,788	11,390,040	7,832,145	1.35
1906	17,732,305	1,557	17,734,872	9,712,077	8,022,794	1.34
1907	14,852,872	1,153	14,853,805	6,891,931	8,141,824	1.31
1908	15,972,170	750	15,972,170	7,825,431	8,152,439	1.25
1909	15,766,680	x	15,766,680	8,002,420	8,064,232	1.02
1910	15,317,151	1,375	15,318,526	6,341,535	10,276,055	1.43
1911	17,427,498	x	17,427,498	8,077,652	14,349,346	1.92
1912	20,349,339	x	20,349,339	9,105,747	18,743,940	1.64
1913	22,482,506	x	22,482,506	8,342,749	14,139,757	1.703
1914						
1915						
1916						
1917						
1918						
1919						
1920						

Table \_\_\_\_\_. Production, consumption, importation and exportation of Cheese. (Official reports.)

Year.	Production.	Importation.	Total.	Exportation.	Consumption.	Per capita consumption.
—	—	—	—	—	—	—
#	#	#	#	#	#	#
1901	x	5,255,000	x	x	x	x
1902	3,615,000	x	x	x	x	x
1903	2,612,058	2,437,321	5,104,907	3,139	5,104,278	1.01
1904	x	4,069,182	x	x	x	x
1905	4,229,37	4,234,313	8,554,813	5,405	8,529,103	1.51
1906	3,073,887	7,304,670	10,378,557	622	10,377,922	1.74
1907	4,124,411	7,352,757	11,309,158	2,094	11,368,054	1.63
1908	4,135,770	8,085,597	12,221,367	2,204	12,219,264	1.63
1909	4,775,535	6,304,728	10,864,264	x	10,864,264	2.30
1910	8,044,878	9,858,041	15,620,919	309	15,620,110	2.17
1911	7,745,482	10,346,500	18,091,493	11,112	18,080,381	2.49
1912	11,962,256	11,648,927	23,611,483	4,241	23,606,242	3.07
1913	6,653,421	11,122,216	17,775,637	18,143	17,757,494	2.93
1914		8,453,245		7,771		
1915		7,305,954		13,344		
1916						
1917						
1918						
1919						
1920						



# B O L I V I A .

## CATTLE:

Number of cattle in Bolivia. (Mo. Bul. 35:823, Pan-Amer. Union)

Year.	Number.
1910	734,266

## Imports and Exports: Cattle:

Table \_\_\_\_ . Number of cattle imported and exported.  
(Official reports.)

Year.	Cattle imported.	Cattle Exported.
1912	6,715	763
1913	4,639	1,065
1914	4,514	1,559
1915	2,796	6,558
1916		
1917		
1918		
1919		
1920		

## Dairy Products:

Table \_\_\_\_ . Imports and exports of dairy products. (Official reports)

Year.	I m p o r t s					
	Butter.	Cheese.	Milk(*)	Butter.	Cheese.	Milk(*)
	#	#	#	#	#	#
1912	229,759	55,274	1,267,180	x	1,503	x
1913	296,823	101,090	1,779,665	151,048	145	533,899
1914	188,043	49,493	882,413	154,278	694	188,359
1915	114,690	27,291	x	x	x	x
1916						
1917						
1918						
1919						
1920						

(\*) Natural, condensed and powdered milk.

Note: No oleomargarine is reported for the years 1912 to 1915, either imported or exported.

Table 1. Cattle and horses of dairy products (Official records)

Year  
1970

Table 2. Cattle and horses of dairy products (Official records)

Table 3. Cattle and horses of dairy products (Official records)

Cattle imported. Cattle exported.

1970	6,715	1,100
1971	4,175	1,100
1972	4,314	1,100
1973	2,700	1,100
1974		1,100
1975		1,100
1976		1,100
1977		1,100
1978		1,100
1979		1,100
1980		1,100

Table 4. Cattle and horses of dairy products (Official records)

Table 5. Cattle and horses of dairy products (Official records)

Year	Imported	Exported	Stock	Production	Consumption
1970	114,000	114,000	114,000	114,000	114,000
1971	114,000	114,000	114,000	114,000	114,000
1972	114,000	114,000	114,000	114,000	114,000
1973	114,000	114,000	114,000	114,000	114,000
1974	114,000	114,000	114,000	114,000	114,000
1975	114,000	114,000	114,000	114,000	114,000
1976	114,000	114,000	114,000	114,000	114,000
1977	114,000	114,000	114,000	114,000	114,000
1978	114,000	114,000	114,000	114,000	114,000
1979	114,000	114,000	114,000	114,000	114,000
1980	114,000	114,000	114,000	114,000	114,000

Table 6. Cattle and horses of dairy products (Official records)

Table 7. Cattle and horses of dairy products (Official records)

# B O L I V I A .

## TRADE WITH THE UNITED STATES.

### Importation:

Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	B u t t e r .		C h e e s e .		C o n d e n s e d m i l k .	
	Amount. #	Value. \$	Amount. #	Value. \$	Amount. #	Value. \$
1911	270	49	200	47	42,220	2,979
1912	x	x	x	x	41,876	3,123
1913	x	x	52	10	46,860	3,534
1914	x	x	x	x	64,327	4,768
1915	172	31	104	25	13,900	1,052
1916	2,336	965	208	54	230,956	20,285
1917						
1918						
1919						
1920						



(V)

MEMORANDUM ON THE DAIRY INDUSTRY

IN BRAZIL: (Original Paper March 7, 1918)  
(By L. Merchant, Pan-American Union)

The production of milk and its derivatives is carried on almost everywhere in Brazil. There is hardly a farmer, however modest his pretensions, who can not boast of at least a cow or two, and there are many who own enough to supply all the milk, butter and cheese required for home use, while in the neighborhood of towns and cities there is always a more or less abundant supply of these commodities from the surrounding farms.

In some parts of the country where cattle are raised in considerable numbers, but which do not possess facilities for the marketing of milk and butter, the milk is utilized to make a peculiar type of cheese. This cheese, which is usually made into the shape of a gourd or cushaw, has a particularly thick and hard rind and is calculated to keep for a considerable length of time. It is sold in the market of Rio and other southern cities under the name of queijo do norte" or northern cheese, the appellation having reference to the section of the Republic in which this cheese is made commonly produced.

In the State of Rio Grande do Sul there is a kind of cheese produced on exactly the opposite type, being very soft and therefore incapable of keeping for a long time. It is eaten with sugar and has a certain resemblance to curd. This cheese was for some time sold in special provision houses and hotels in Rio de Janeiro, where it was enjoyed as a luxury.

Another sort of fresh cheese is made in the neighborhood of Petropolis, in the State of Rio de Janeiro, and is consumed in great quantities in the Federal capital. Also a salt cheese of the Camembert type is made in the surroundings of Petropolis. These two sorts of cheese are manufactured in regularly established dairies, among which the Cremerie Suisse, but the fresh sort is also made by numerous farmers in the neighborhood. These people make a considerable quantity of butter, which is consumed principally in Rio de Janeiro, both salted and unsalted. It is a most excellent product, the

2001

MEMORANDUM ON THE DAIRY INDUSTRY

IN BRAZIL: (Original Paper March 7, 1918)  
(By L. Merchant, Pan-American Union)

The production of milk and its derivatives is carried on almost everywhere in Brazil. There is hardly a farmer, however modest his pretensions, who can not boast of at least a cow or two, and there are many who own enough to supply all the milk, butter and cheese required for home use, while in the neighborhood of towns and cities there is always a more or less abundant supply of these commodities from the surrounding farms.

In some parts of the country where cattle are raised in considerable numbers, but which do not possess facilities for the marketing of milk and butter, the milk is utilized to make a peculiar type of cheese. This cheese, which is usually made into the shape of a gourd or cushaw, has a particularly thick and hard rind and is calculated to keep for a considerable length of time. It is sold in the market of Rio and other southern cities under the name of "queijo do norte" or northern cheese, the appellation having reference to the section of the Republic in which this cheese is most commonly produced.

In the State of Rio Grande do Sul there is a kind of cheese produced on exactly the opposite type, being very soft and therefore incapable of keeping for a long time. It is eaten with sugar and has a certain resemblance to curd. This cheese was for some time sold in special provision houses and hotels in Rio de Janeiro, where it was enjoyed as a luxury.

Another sort of fresh cheese is made in the neighborhood of Petropolis, in the State of Rio de Janeiro, and is consumed in great quantities in the Federal capital. Also a salt cheese of the Emment type is made in the surroundings of Petropolis. These two sorts of cheese are manufactured in regularly established dairies, among which the Cremerie Suisse, but the fresh sort is also made by numerous farmers in the neighborhood. These people make a considerable quantity of butter, which is consumed principally in Rio de Janeiro, both salted and unsalted. It is a most excellent product, the

of these communities from the surrounding farms.

In some parts of the country where cattle are raised in considerable numbers, but which do not possess facilities for the marketing of milk and butter, the milk is utilized to make a peculiar type of cheese. This cheese which is usually made into the shape of a round or cylinder, has a particularly soft hard kind and is calculated to keep for a considerable length of time. It is sold in the market of Rio and other northern cities under the name of "queijo do norte" or northern cheese. The speculation having reference to the section of the Republic in which this cheese is made commonly produced.

In the state of Rio Grande do Sul there is a kind of cheese very much on exactly the opposite type, being very soft and therefore incapable of keeping for a long time. It is eaten with sugar and has a certain resemblance to this cheese was for some time sold in a local provision house and hotels. Rio de Janeiro, where it was enjoyed as a luxury.

unsalted variety being famous for its fresh sweet taste.

Dairy work has been organized on broad industrial lines in States of Sao Paulo, Rio de Janeiro and Minas Geraes. The last mentioned State is famous for a particular type of salt cheese, which is consumed almost everywhere in Brazil. In shape it resembles a grind-stone (without the hole), and is usually from 8 to 10 inches in diameter and from 3 to 4 inches in length. The mass of the cheese is white and contains numerous cavities and besides the cream which permeates the mass without appearing to separate, it contains a considerable/<sup>quantity</sup>~~amount~~ of moisture. For this reason the cheese should be eaten when fresh for as it ages, either the moisture evaporates and the cheese becomes hard, or it grows sour, and in either case the value of the cheese suffers. There is also the possibility of rot setting in through the rind, which, notwithstanding its thickness and toughness, is not sufficiently resistant to preserve the cheese for a long period.

This type - "the mineiro" - is the one commonly adopted in the making of cheese by small farmers in many parts of Brazil, naturally because of the great simplicity of process of making it as compared with the more elaborate methods and complex machinery required for the production of more durable types. This type, however, is not to be looked upon as inferior in quality. Throughout all Brazil, it is held in great esteem, being often preferred to the more expensive foreign cheeses. Housewives acquire a great deal of skill in judging of the age and condition of a cheese by its appearance and touch. But this examination is, after all, incomplete, for the flavor of the cheese, its excellence or want of it, can only be verified after the cheese is cut. The real objection, however, to this type for exportation is that it will not keep for a long period of time. For this reason, and with a view to satisfy the taste of those who are accustomed to the more widely known types, a number of factories have been established for the production of what is called English Dutch cheese and is known in Brazil as "queijo do Rheno", or Rhine cheese.



which is a yellow cheese of spherical shape and encased in a thick tough rind, colored red on the outside, the whole being enclosed in a container. It resembles the genuine Dutch cheese very closely, but differs from it in the sense that the mass is somewhat less compact and contains larger cavities. It is natural to suppose, however, that these differences are due to the evolutionary stage of the industry and will disappear in time. An important character of this cheese is its durability, which would appear to be equal to that of the genuine Dutch.

#### BUTTER.

Butter is manufactured in Minas in large quantities. It is of excellent quality, and is shipped both in tins and kegs, in which latter case it is distributed by the vendors in such quantities as are required by the purchaser. An important feature of the Minas dairy activities is the shipping of milk to Rio de Janeiro and other large cities. In the Minas towns the regular price of a bottle (about  $\frac{2}{3}$  of a quart) of rich milk is 100 reis, equivalent to  $2\frac{1}{2}$  cents in U.S. money. In Rio de Janeiro the regular market price of fresh milk is 500 reis ( $12\frac{1}{2}$  cents) per litre. In that city there are numerous houses called "leiterias," or milk houses, in which milk is served icy-cold, warm or hot according to the taste of the customer. Also they serve clabber formed in the bowls in which it is served. This is quite a nice dish and is preferred by many to ice cream owing to its food value. These milk houses are generally very elegant establishments, beautifully decorated and appropriately furnished and the service is scrupulously clean, neat and attentive. The prices charged are: 1 bottle of milk of any temperature 300 reis (7 $\frac{1}{2}$  cents);  $\frac{1}{2}$  bottle 200 reis (5 cents); 1 dish of clabber 200 reis (5 cents). Cakes, sweet breads and biscuits are always to be had at these houses, which have generally a very large attendance, the better ones being frequented by the better classes of people, including ladies and children, who very often make their lunch on



The State of Minas is considered the most important dairy State as a whole. But the States of Rio de Janeiro and Sao Paulo are now producing large quantities of dairy products. The State of Rio de Janeiro furnishes a very large part of the milk supplied to the cities of Rio de Janeiro and Sao Paulo, but produces very little cheese in comparison with what is made in Minas Geraes.

The following table shows the exports from Minas in 1910 and 1911:

	1910	1911	
Milk	8,704,654	11,833,485	kilos.
Butter	2,557,689	3,059,686	"
Cheese	5,406,751	6,079,515	"

(106,000 qt.)

It is estimated that about 100,000 litres of milk per day are consumed in the City of Rio de Janeiro.

---

	1910	1911
Milk	19,190,280*	26,088,101*
Butter	5,638,681	6,745,384
Cheese	11,919,723	13,402,899

The following table shows the exports from China in 1910 and 1911:

	1910	1911
Milk	8,704,684	11,888,488
	2,329,888	2,329,888

It is estimated that about 100,000 litres of milk per day are consumed in the City of Rio de Janeiro.

	1910	1911
Cheese	11,919,728	12,402,699
Butter	2,688,081	3,742,304
Milk	19,180,880	22,088,101

## DAIRYING.

### BRAZIL:

#### Dairying in São Paulo, Brazil.

(Consul Chas. Hoover, Jan. 16, 1918, No. 97588)

"Following the custom common to all countries where warm weather is continuous throughout the year, the housewives of São Paulo have, until within comparatively recent times, done the purchasing of each day's supply of provisions in the morning and their greatest concern was to buy only such amount of perishable food as would be sufficient for the family until the following morning. As milk only remains sweet a few hours in this climate, unless it is boiled or kept in a refrigerator, it is the general custom to buy only the amount necessary for the morning coffee. For this purpose it is boiled as soon as it is received from the milkman who transports it from his farm to the city in large cans similar to those in use in the United States although some of the farmers are now bottling their product.

Milk is used to an extremely limited extent in cooking while cream is almost unknown and is rarely seen except occasionally upon the tables of a few families which receive a limited supply from an American lady who has a number of Jersey cows and who sells the cream as a favor to her friends.

At the present time, however, refrigerators are gradually coming into general use and the use of sweet milk, cream and butter promises to increase rapidly in the near future. Prior to about 1905 only canned butter was used and that to a very limited extent, but in that year the importation from the adjoining State of Minas Geraes of a few pounds of fresh butter weekly was begun and since that time the consumption has grown to such an extent that the supply from Minas Geraes is scarcely equal to the demand and consequently the farmers throughout this State are beginning to awaken to the alluring prospects of large profits to be made in dairying. The establishment of two large packing houses in this city by American companies and the prospect that another one will locate <sup>here</sup> in the very near future has brought about an immense

REPORT ON THE MILK INDUSTRY IN MINNESOTA

The milk industry in Minnesota is one of the most important and profitable of the State. It is a highly organized industry, and the production of milk is a highly specialized business. The milk is produced in the State of Minnesota, and is transported to the cities of the State. The milk is then sold to the consumers of the State. The milk is a highly perishable commodity, and it is therefore necessary to transport it quickly to the consumers. The milk is transported in refrigerated cars, and it is sold to the consumers in the cities of the State. The milk is a highly important commodity, and it is therefore necessary to transport it quickly to the consumers. The milk is transported in refrigerated cars, and it is sold to the consumers in the cities of the State. The milk is a highly important commodity, and it is therefore necessary to transport it quickly to the consumers. The milk is transported in refrigerated cars, and it is sold to the consumers in the cities of the State.

interest not only in beef cattle but in milk cows as well for the farmers know that as the supply of green forage and pasture is constant the production of milk may be kept up to the maximum the year round and it may be expected that within a few years dairying will be one of the leading industries of the State of Sao Paulo.

As yet, butter is sold only in bulk and no attempt has been made to introduce fancy packing. \* \* \* \* \*

No cheese is made in this State, the supply coming from Minas Geraes and Rio Grande do Sul in which states cheese of excellent quality in style of most of the known European varieties is produced. \* \* \* \* \*

107-108, 109-110, 111-112, 113-114, 115-116, 117-118, 119-120, 121-122, 123-124, 125-126, 127-128, 129-130, 131-132, 133-134, 135-136, 137-138, 139-140, 141-142, 143-144, 145-146, 147-148, 149-150, 151-152, 153-154, 155-156, 157-158, 159-160, 161-162, 163-164, 165-166, 167-168, 169-170, 171-172, 173-174, 175-176, 177-178, 179-180, 181-182, 183-184, 185-186, 187-188, 189-190, 191-192, 193-194, 195-196, 197-198, 199-200, 201-202, 203-204, 205-206, 207-208, 209-210, 211-212, 213-214, 215-216, 217-218, 219-220, 221-222, 223-224, 225-226, 227-228, 229-230, 231-232, 233-234, 235-236, 237-238, 239-240, 241-242, 243-244, 245-246, 247-248, 249-250, 251-252, 253-254, 255-256, 257-258, 259-260, 261-262, 263-264, 265-266, 267-268, 269-270, 271-272, 273-274, 275-276, 277-278, 279-280, 281-282, 283-284, 285-286, 287-288, 289-290, 291-292, 293-294, 295-296, 297-298, 299-300, 301-302, 303-304, 305-306, 307-308, 309-310, 311-312, 313-314, 315-316, 317-318, 319-320, 321-322, 323-324, 325-326, 327-328, 329-330, 331-332, 333-334, 335-336, 337-338, 339-340, 341-342, 343-344, 345-346, 347-348, 349-350, 351-352, 353-354, 355-356, 357-358, 359-360, 361-362, 363-364, 365-366, 367-368, 369-370, 371-372, 373-374, 375-376, 377-378, 379-380, 381-382, 383-384, 385-386, 387-388, 389-390, 391-392, 393-394, 395-396, 397-398, 399-400, 401-402, 403-404, 405-406, 407-408, 409-410, 411-412, 413-414, 415-416, 417-418, 419-420, 421-422, 423-424, 425-426, 427-428, 429-430, 431-432, 433-434, 435-436, 437-438, 439-440, 441-442, 443-444, 445-446, 447-448, 449-450, 451-452, 453-454, 455-456, 457-458, 459-460, 461-462, 463-464, 465-466, 467-468, 469-470, 471-472, 473-474, 475-476, 477-478, 479-480, 481-482, 483-484, 485-486, 487-488, 489-490, 491-492, 493-494, 495-496, 497-498, 499-500, 501-502, 503-504, 505-506, 507-508, 509-510, 511-512, 513-514, 515-516, 517-518, 519-520, 521-522, 523-524, 525-526, 527-528, 529-530, 531-532, 533-534, 535-536, 537-538, 539-540, 541-542, 543-544, 545-546, 547-548, 549-550, 551-552, 553-554, 555-556, 557-558, 559-560, 561-562, 563-564, 565-566, 567-568, 569-570, 571-572, 573-574, 575-576, 577-578, 579-580, 581-582, 583-584, 585-586, 587-588, 589-590, 591-592, 593-594, 595-596, 597-598, 599-600, 601-602, 603-604, 605-606, 607-608, 609-610, 611-612, 613-614, 615-616, 617-618, 619-620, 621-622, 623-624, 625-626, 627-628, 629-630, 631-632, 633-634, 635-636, 637-638, 639-640, 641-642, 643-644, 645-646, 647-648, 649-650, 651-652, 653-654, 655-656, 657-658, 659-660, 661-662, 663-664, 665-666, 667-668, 669-670, 671-672, 673-674, 675-676, 677-678, 679-680, 681-682, 683-684, 685-686, 687-688, 689-690, 691-692, 693-694, 695-696, 697-698, 699-700, 701-702, 703-704, 705-706, 707-708, 709-710, 711-712, 713-714, 715-716, 717-718, 719-720, 721-722, 723-724, 725-726, 727-728, 729-730, 731-732, 733-734, 735-736, 737-738, 739-740, 741-742, 743-744, 745-746, 747-748, 749-750, 751-752, 753-754, 755-756, 757-758, 759-760, 761-762, 763-764, 765-766, 767-768, 769-770, 771-772, 773-774, 775-776, 777-778, 779-780, 781-782, 783-784, 785-786, 787-788, 789-790, 791-792, 793-794, 795-796, 797-798, 799-800, 801-802, 803-804, 805-806, 807-808, 809-810, 811-812, 813-814, 815-816, 817-818, 819-820, 821-822, 823-824, 825-826, 827-828, 829-830, 831-832, 833-834, 835-836, 837-838, 839-840, 841-842, 843-844, 845-846, 847-848, 849-850, 851-852, 853-854, 855-856, 857-858, 859-860, 861-862, 863-864, 865-866, 867-868, 869-870, 871-872, 873-874, 875-876, 877-878, 879-880, 881-882, 883-884, 885-886, 887-888, 889-890, 891-892, 893-894, 895-896, 897-898, 899-900, 901-902, 903-904, 905-906, 907-908, 909-910, 911-912, 913-914, 915-916, 917-918, 919-920, 921-922, 923-924, 925-926, 927-928, 929-930, 931-932, 933-934, 935-936, 937-938, 939-940, 941-942, 943-944, 945-946, 947-948, 949-950, 951-952, 953-954, 955-956, 957-958, 959-960, 961-962, 963-964, 965-966, 967-968, 969-970, 971-972, 973-974, 975-976, 977-978, 979-980, 981-982, 983-984, 985-986, 987-988, 989-990, 991-992, 993-994, 995-996, 997-998, 999-1000, 1001-1002, 1003-1004, 1005-1006, 1007-1008, 1009-1010, 1011-1012, 1013

## CATTLE.

### BRAZIL:

"Little confidence can be placed in reports of the number of cattle in Brazil. It was estimated that there were 25,000,000 cattle in 1910, and that the number had increased to 30,000,000 in 1913 and to 30,705,000 in 1914. Brazil, therefore, has about as many cattle as Argentina, with three times the population, and no exports of beef except a considerable quantity of jerked beef and a small beginning of frozen or chilled beef export. It seems like a poorly productive industry compared with that of Argentina, United States, Australia, and many other countries. The explanations of this are that most of the cattle are of low beef grade and that cattle diseases, even when not fatal, prevent cattle from reaching a slaughtering condition, except for jerked beef, and at the same time there is a want of a system of marketing, of facilities for slaughtering, and of means of transportation -- domestic and ocean. When, however, suitable cattle are supplied in a fit condition for slaughtering for something better than jerked beef, the facilities for utilizing them will doubtless be provided, and a beginning has been made." (Report 109, Meat Situation in the United States, Geo. K. Holmes, p-27, part 1)

Table \_\_\_\_ Total number of cattle in the country, according to official reports.

Year.	Head.
1891	17,000,000
1910	25,000,000
1913	30,000,000
1914	30,705,000
1916	28,962,000

Table \_\_\_\_ Number of cattle in principal States.

(O. Criador Paulista, Jan.-Feb., 1914, Ministry of Agriculture publication. P. do Saq Paulo.)

1911-12 and 1912-13. The total number of cattle in the United States in 1911 was 30,000,000 and in 1912 was 30,000,000. The total number of cattle in the United States in 1913 was 30,000,000.

Brazil, therefore, has about as many cattle as Argentina, with three times the population, and no exports of beef except a considerable quantity of jerked beef and a small beginning of frozen or chilled beef export. It seems like a poorly productive industry compared with that of Argentina, United States, Australia, and many other countries. The explanation of this is that most of the cattle are of low beef grade and that cattle diseases, even when not fatal, prevent cattle from reaching a slaughtering condition, except for jerked beef, and at the same time there is a want of a system of marketing of facilities for slaughtering, and of means of transportation -- domestic and ocean. Then, however, suitable cattle are supplied in a fit condition for slaughtering for something better than jerked beef, the facilities for utilizing them will doubtless be provided, and a beginning has been made." (Report 109, Meat Situation in the United States, Geo. A. Holmes, p. 27, para 1)

Table \_\_\_\_ Total number of cattle in the country, according to official reports.

Year	Number of cattle
1910	28,000,000
1912	30,000,000
1913	30,000,000
1914	30,000,000
1915	30,000,000

Table \_\_\_\_ Number of cattle in principal States of each country.

# CATTLE.

State.	Cattle.
Bahia	2,683,000
Matto Grosso	2,650,000
Minas Geraes	6,861,000
Rio Grande do sul	7,249,000
Goyas	1,872,000
Ceara	1,162,000
Piauhy	1,163,000
Sao Paulo	1,322,000

## Imports and Exports:

Table \_\_\_\_ Number of cattle imported and exported. (Official reports)

Year.	Cattle imported.	Cattle exported.
1900	x	x
1901	92,016	204,632
1902	44,468	232,295
1903	56,051	233,120
1904	14,146	121,717
1905	42,714	272,348
1906	15,142	277,174
1907	17,543	280,458
1908	24,966	
1909	69,958	
1910	74,868	none
1911	31,186	20
1912	63,268	220
1913	35,136	
1914	6,665	none
1915	1,787	500
1916		
1917		
1918		
1919		
1920		

## PRODUCTION:

The production of dairy products in Brazil does not suffice for the needs of its population. Possibly the State of Minas is the only one that produces more than it consumes. The industry continues to improve, owing to



DAIRY PRODUCTS.

the erection of large cold storage plants and factories and the introduction of English, Swiss and Dutch breeds of cattle.

The Federal government has organized two dairy schools to give instruction of a practical nature.

The State of Minas exported during 1911- 26,089,101 pounds of milk, 6,745,384 pounds of butter and 13,402,898 pounds of cheese. Of course, most of this was used in other parts of Brazil.

Table with multiple columns and rows, containing numerical data. The text is very faint and illegible.



BRAZIL:DAIRY PRODUCTS.Imports and Exports:

Table \_\_\_\_\_. Record of early imports of butter and cheese.  
(Official reports & Porter's tables, British Statistics)

Year.	Butter imported.		Cheese imported.	
	Firkins.		Number.	
1848	19,600		48,966	
1849	26,673		117,578	
1850	23,980		76,212	
1851	25,698		172,956	
1886	2,366,889	lbs.	697,705	lbs.
1887	1,326,166	"	421,533	"
1888	2,781,072		751,169	"

Table \_\_\_\_\_. Imports and exports of dairy products (Official reports).

Year.	Imports.			Exports.		
	Butter.	Cheese	Cond. Milk.	Butter.	Cheese.	Cond. Milk.
	-lbs.-	-lbs.-	-lbs.-	-lbs.-	-lbs.-	-lbs.-
1901	6,058,227	2,523,370	x	14,888	3,307	(none)
1902	6,270,830	3,067,608	2,831,032	2,178	5,230	
1903	5,496,079	2,903,507	3,637,879	x	132	
1904	5,642,123	3,043,486	4,056,169	88	1,235	
1905	6,567,653	3,120,137	5,020,494	13,888	x	
1906	5,344,358	3,784,736	5,118,036	16,951	342	
1907	5,451,072	3,632,054	6,341,754	7,762	243	
1908	4,122,607	3,455,086	5,722,030	4,894	110	
1909	4,944,999	3,241,214	3,264,825	3,732	x	
1910	4,589,351	4,119,674	9,202,386	11,221	1,155	
1911	4,321,443	3,930,910	8,813,331	4,630	275	
1912	4,208,491	6,280,414	9,362,908	x	132	
1913	4,335,575	4,195,810	8,828,711	x	3,596	
1914	2,364,008	3,288,419	7,461,967	x	x	
1915						
1916						
1917						
1918						
1919						
1920						



Imports and Exports:TRADE WITH THE UNITED STATES.Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	Butter.		Cheese.		Condensed Milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
	\$	\$	\$	\$	\$	\$
1911	278,300	61	35	5	201,335	13,554
1912	598,300	120	169	34	173,943	12,160
1913	241,300	47	91	17	140,713	13,292
1914	x	x	95	16	41,217	3,665
1915	15,525	3,592	7,914	1,535	600,901	56,659
1916	6,917	1,605	3,274	682	1,113,623	95,979
1917						
1918						
1919						
1920						

Table \_\_\_\_\_. Importation of condensed milk, by countries.  
(Data furnished by War Trade Board)

From Country.	1911	1912	1913	1914	1915	1916
	\$	\$	\$	\$	\$	\$
Germany	74,515	150,288	77,983	245,215		
Argentina	3,560	3,686	1,700	3,747		
Aust. Hungary	2,546	2,640	2,063	x		
Belgium	5,053	x	1,554	x		
Denmark	154	46	1,777	2,629		
U. S. A.	165,047	188,643	44,502	454,073		
France	66,160	95,992	208,044	132,432		
Gr. Britain,	109,732	111,925	83,611	86,019		
Holland	15,121	42,516	197,164	31,567		
Italy	23,911	14,374	30,922	106,462		
Norway	259,446	245,784	121,894	147,123		
Paraguay	x	5,765	10,161	x		
New Zealand	x	x	6,486	3,593		
Sweden	13,435	247	3,615	x		
Switzerland	8,042,451	8,413,896	7,808,365	6,298,833		
Turkey, Asia	32,196	x	x	x		
Uruguay	x	118,299	228,813	50,470		
Total	8,813,727	9,362,071	8,828,654	7,461,963		



# BRITISH GUIANA.

## CATTLE:

Table \_\_\_\_\_. Number of cattle in British Guiana. (British reports)

Year.	Cattle.	Buffaloes. (Indian water)
1903	70,100	15
1904	85,600	x
1905	77,000	x
1906	84,990	x
1907	72,000	x
1908	70,000	25
1909	72,000	x
1910	71,500	x
1911	81,460	x
1912	71,500	x
1913	81,240	7½
1914	89,500	100
1915	97,760 (*)	136
1916		
1917		
1918		
1919		
1920		

(\*) The year 1915 was characterized by a wide-spread outbreak of anthrax on East Coast of Demerara.

Table \_\_\_\_\_. Importation of butter into British Guiana. (Special)  
(Official reports)

Dec. 31.	Butter.	Year.	Butter.
Year.	#	Year.	#
1880	610,091	1900	474,388
1881	710,125	1901	408,318
1882	737,241	1902	400,569
1883	729,232	1903	465,312
1884	715,080	1904	497,882
1885	680,894	1905	471,796
1886	665,789	1906	445,358
1887	709,098	1907	512,827
1888	598,522	1908	491,108
1889	519,927	1909	514,124
1890	640,354	1910	524,769
1891	511,467	1911	462,794
1892	477,400	1912	482,194
1893	598,546	1913	513,297
1894	516,129	1914	
1895	650,027	1915	
1896	566,381	1916	
1897	529,802	1917	
1898	516,462	1918	
1899	468,524	1919	

on East Coast of Tennessee.

BRITISH GUIANA.

Importations:

Table \_\_\_\_\_. Importations of milk products. (Official reports)

Year.	Cheese.	Cond. milk.	Oleomargarin.
	#	#	#
1912	200,980	654,156	366,394
1913			
1914			
1915			
1916			
1917			
1918			
1919			
1920			

GUIANA.

(British, French, and Dutch.)

TRADE WITH THE UNITED STATES.

Table \_\_\_\_\_. Importations of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	Butter.		Cheese.		Condensed Milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
	#	\$	#	\$	#	\$
1911	79,159	17,057	3,480	504	3,800	323
1912	69,888	14,287	10,310	1,727	2,810	229
1913	69,981	15,246	877	127	4,076	347
1914	99,602	20,454	313	52	3,730	313
1915	81,062	16,691	7,085	1,306	8,754	873
1916	133,692	32,243	53,458	10,589	20,195	2,079
1917						
1918						
1919						
1920						

# STATE OF TEXAS

January 1, 1900

Department of Agriculture and Mechanical Industries

Year	Commodities	Value	Quantity
1900	Wheat	100,000	100,000
1901	Wheat	120,000	120,000
1902	Wheat	150,000	150,000
1903	Wheat	180,000	180,000
1904	Wheat	200,000	200,000
1905	Wheat	220,000	220,000
1906	Wheat	250,000	250,000
1907	Wheat	280,000	280,000
1908	Wheat	300,000	300,000
1909	Wheat	320,000	320,000
1910	Wheat	350,000	350,000

## ANNUAL REPORT

(Presented to the Legislature at its Session, 1910-1911)

Submitted by the Department of Agriculture and Mechanical Industries

Year	Commodities	Value	Quantity	Commodities	Value	Quantity
1911	Wheat	380,000	380,000	Cotton	100,000	100,000
1912	Wheat	400,000	400,000	Cotton	120,000	120,000
1913	Wheat	420,000	420,000	Cotton	140,000	140,000
1914	Wheat	450,000	450,000	Cotton	160,000	160,000
1915	Wheat	480,000	480,000	Cotton	180,000	180,000
1916	Wheat	500,000	500,000	Cotton	200,000	200,000
1917	Wheat	520,000	520,000	Cotton	220,000	220,000
1918	Wheat	550,000	550,000	Cotton	240,000	240,000
1919	Wheat	580,000	580,000	Cotton	260,000	260,000
1920	Wheat	600,000	600,000	Cotton	280,000	280,000

# BRITISH HONDURAS.

## Cattle & Imports.

Table \_\_\_\_\_. Number of cattle in the country and value of butter and cheese imported. (Official reports)

Year.	Cattle.	<u>I m p o r t s.</u>	
		Butter.	Cheese.
1898	1,355	\$23,144	\$10,180
1899	1,481	22,227	10,200
1900	1,645	23,490	10,479
1901	2,469	21,716	10,383
1902	1,331	21,002	10,884
1903	2,900	24,113	12,625
1904	1,711	27,208	12,924
1905	1,804	27,797	14,366
1906	1,328	29,345	15,842
1907	1,384	37,476	18,070
1908	1,852	30,710	19,222
1909	1,775	30,160	18,046
1910	1,588	33,540	17,790
1911	1,622	34,056	17,641
1912	2,287	33,690	17,670
1913			
1914			
1915			
1916			
1917			
1918			
1919			
1920			

## TRADE WITH THE UNITED STATES.

### Importations:

Table \_\_\_\_\_. Importation of milk products from the United States. (Department of Commerce reports, U.S.A.)

Year.	<u>B u t t e r.</u>		<u>C h e e s e.</u>		<u>C o n d e n s e d m i l k.</u>	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
	#	\$	#	\$	#	\$
1911	41,371	11,707	75,447	12,538	79,658	6,182
1912	35,976	10,926	68,400	11,588	136,713	10,938
1913	36,882	11,955	74,586	13,491	137,821	11,481
1914	24,586	7,522	89,048	15,779	164,796	14,308
1915	22,458	6,838	86,341	15,426	274,497	24,155
1916	24,974	8,146	76,050	13,945	621,696	54,531
1917						
1918						
1919						
1920						

Number of cattle in the country and value of

Year.	Number.	Value.
1900	1,000,000	\$10,000,000
1901	1,000,000	\$10,000,000
1902	1,000,000	\$10,000,000
1903	1,000,000	\$10,000,000
1904	1,000,000	\$10,000,000
1905	1,000,000	\$10,000,000
1906	1,000,000	\$10,000,000
1907	1,000,000	\$10,000,000
1908	1,000,000	\$10,000,000
1909	1,000,000	\$10,000,000
1910	1,000,000	\$10,000,000
1911	1,000,000	\$10,000,000
1912	1,000,000	\$10,000,000
1913	1,000,000	\$10,000,000
1914	1,000,000	\$10,000,000
1915	1,000,000	\$10,000,000
1916	1,000,000	\$10,000,000
1917	1,000,000	\$10,000,000
1918	1,000,000	\$10,000,000
1919	1,000,000	\$10,000,000
1920	1,000,000	\$10,000,000

TABLE 10.—IMPORTATION OF MILK PRODUCTS FROM THE UNITED STATES.

Table 10.—Importation of milk products from the United States.

Year.	Butter.	Condensed milk.	Evaporated milk.	Sterilized milk.
1900	1,000,000	1,000,000	1,000,000	1,000,000
1901	1,000,000	1,000,000	1,000,000	1,000,000
1902	1,000,000	1,000,000	1,000,000	1,000,000
1903	1,000,000	1,000,000	1,000,000	1,000,000
1904	1,000,000	1,000,000	1,000,000	1,000,000
1905	1,000,000	1,000,000	1,000,000	1,000,000
1906	1,000,000	1,000,000	1,000,000	1,000,000
1907	1,000,000	1,000,000	1,000,000	1,000,000
1908	1,000,000	1,000,000	1,000,000	1,000,000
1909	1,000,000	1,000,000	1,000,000	1,000,000
1910	1,000,000	1,000,000	1,000,000	1,000,000
1911	1,000,000	1,000,000	1,000,000	1,000,000
1912	1,000,000	1,000,000	1,000,000	1,000,000
1913	1,000,000	1,000,000	1,000,000	1,000,000
1914	1,000,000	1,000,000	1,000,000	1,000,000
1915	1,000,000	1,000,000	1,000,000	1,000,000
1916	1,000,000	1,000,000	1,000,000	1,000,000
1917	1,000,000	1,000,000	1,000,000	1,000,000
1918	1,000,000	1,000,000	1,000,000	1,000,000
1919	1,000,000	1,000,000	1,000,000	1,000,000
1920	1,000,000	1,000,000	1,000,000	1,000,000

Cattle:

Indian Cattle In Jamaica.

(Briefed from article by Hon. E. E. Barrett,  
Min. Dept. of Agriculture Jamaica, Apr. 1909, p-102)

INDIAN BLOOD

The first Indian cattle were sent out to Shettlemore Pen more than a half century ago by Lord Howard de Walden.

The stock from this strain has been spread over most of the pens in the northern and western parts of the island, and have done much to improve the working qualities of the cattle of those districts.

In September, 1880, five pure-bred Indian cattle were sent out by Lord Howard de Walden to Shettlemore Pen. These consisted of two bulls, two cows and a bull calf; selected from India's best and believed to be the Arita Hatal breed, which is supposed to make good milking cows.

The breed, as a whole, occupies among cattle a position very near, perhaps, one of endurance, strongly analogous to that of the thorough-bred horse under horses. The animals representing it are light in build, and their greatest defect is their moderate size. This, however, has been improved by crossing them with the larger creole cows, and the cross-bred Indian stock now, when fully grown, just as large as ordinary cattle. The pure-bred bulls, though short-legged, are in most cases quite as heavy as creole bulls, though inferior in mind and weight to cross-bred Arita bulls.

As milkers, the cows are notorious for their poor yield. It is common tendency in all breeds for the milking qualities to degenerate when calves suck in a state of nature as when the cattle go in herds.

In India a cow of this breed is supposed to give about one quart of milk a day, and the calf could not be deprived of her part of it without being materially injured in its growth. The calves run in with their mothers during the day, but are kept in a fold under charge of one headman until they are

THE STATE OF NEW YORK  
IN SENATE  
JANUARY 1844

REPORT

OF THE COMMISSIONERS OF THE LAND OFFICE

IN RESPONSE TO A RESOLUTION

PASSED BY THE SENATE, APRIL 18, 1843

ALBANY: PUBLISHED BY J. B. LEECH, 1844

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THE LANDS BELONGING TO THE PEOPLE

Buttle:

three months old, when they begin to graze and get strength. In the cold season when k. p. is abundant they are generally weaned at the age of five months. In this country the calves are kept with their mothers day and night in the pastures and are not generally weaned till they are about nine or ten months old.

In India heifers begin to breed between three and four years old, and produce about six or seven calves, which is much the same as ordinary cattle do here. Once the cows start to breed they are much more regular breeders than cattle of ordinary, or of the mixed English breeds; this is not true of the half breeds; the grades from three-quarters upwards give a calf every other year. The average annual percentage of calves in India is 50%. This is below the average in Jamaica, which is from 60 to 80%. In India, twenty cows are allowed to one bull, but this is rather higher than the proportion in this country.

In Jamaica most of the imported heifers lived in the age of twelve to two, and I have heard of cows calving when well over twenty. As a rule in Jamaica, cows are transferred to Tatton at from 10 to 11 and sold off at 11 to 12 years old, before they are much past their vigor.

**GUGERAT BREED.**

In 1885, four pure-bred Gugerat cattle were imported for Monticello Farm, consisting of two bulls and two cows; one of the cows died after arrival from injuries received on the voyage. The cross between these and the Jersey cattle adds size to the latter, and the cross with native cows is larger than the Mysore cross.

The Gugerats are more timid and less tractable than the Jersey but are equally good workers and good milkers.

In January, 1898, two Gir bulls were imported from India to Monticello Farm. This breed is generally dark brown in color.



Cattle.

Hisar Cattle.

The Hisar seems to be quite the leading breed in India for milking purposes. A cow of this breed has been recorded as giving 4,000 quarts of milk in a year, or an average of about 11 quarts daily. These cattle were introduced from India to Trinidad, and it is due to the enterprise of the government at Trinidad, that the Hisar breed has been distributed all over America. Their descendants now form the bulk of the cattle of Indian origin in the island.

Suitability to the climate.

Indian cattle are noted for their hardiness of constitution; they can subsist and keep in good condition on the shortest grass, on which Anglo-American bred stock would starve and die; they eat much of the coarsest grasses and shrubs that other cattle refuse, and are free from most diseases. They thrive equally well in the hottest lowlands or in the highest mountains; neither excessive drought nor excessive rainfall seems to hurt them. They are in a great measure immune from the attacks of the different species of ticks, in pastures. I have noticed a great disposition of ticks in pastures which have been regularly pastured by Zebu cattle, and horses also thrive better when fed in the same pasture with the Indian cattle. Ticks are frequently on the skins of Zebu but unless the animal is sick or is starved they do not seem to thrive, but a pest to exist in an undeveloped state. Should the Zebu be starved for a couple of days, the ticks develop on its hide in a most astonishing way, though the animal may have been well fed as a place where there were none. They are able to do without shade, and thrive in the most exposed situation under the tropical sun. The chief cause of loss in Indian breeding is the young cattle and the spleen fever among the mature animals.

Milking qualities of Indian cattle.

The Indian cattle are doubtless poor milkers; the very qualities which place them at the head of the working breeds of cattle are against their



## JAMAICA.

### Cattle:

giving much milk.

The Gir cattle are famous as milkers, and rival the Hallows and Frieser, which are reputed to be the best milkers in India. The cows are somewhat difficult to break in to milk. They mostly object to being tied when milked.

I find that when I had cross-bred English and Gir cattle, the average losses by death in a series of 15 years, before the introduction of the Indian strain, was 25%, up to 18 months old. In the 15 years following the introduction of the Indian bulls, the average loss came down to 8%, or about two-thirds less.

### Hereford Cattle.

The first introduction of pedigree Herefords that I can trace took place in the year 1844, according to Mr. J. B. Edwards.

### Anyak and Stock Farm.

On the islands of Trinidad and Tobago, the Government Stock Farm have been maintained for many years. In addition to supplying local requirements, the neighboring colonies have also been able to obtain good horses and other cattle, as well as sheep, pigs, poultry, etc.

The Board of Agriculture at Guyana since its organization has paid a special attention to the introduction of pedigree stock, including, "Aberdeen bulls, half-bred Somerset bulls, Holstein cows, Jersey cows, etc."

At the small stock farm attached to the Agricultural School on the island of St. Vincent, there is a fine thoroughbred Friesian bull, an Ayrshire cow and a Barbados cow.



## J A M A I C A .

### Cattle:

#### Cattle Raising in Jamaica.

T.G.M. Robertson in Bul. of the Dept. of Agr. of Jamaica.  
(Mo. Bul. Agrl. Intel. & Pl. Dis. 1913, p-1262)

"The writer, referring to the experiments made by Mr. Gosset at Belvidere with Indian and Porto Rico cattle, gives the results of the researches which he has himself carried out at Burnt Ground.

Mr. Robertson considers it necessary to produce a type of cattle in Jamaica which will, as far as possible, combine the size, development and hardiness of Indian cattle with early maturity and an aptitude to fatten well. It should, however, not be forgotten that Jamaica is a tropical country with a tropical climate, and that the first condition is to prevent calf mortality. Good results were obtained by the writer, who used cows with a considerable amount of Indian blood, and half-bred Devon, Herford and Shorthorn bulls."



J A M A I C A .

Cattle:

Table \_\_\_\_\_. Number of cattle in Jamaica. (Stat. Abs. Untd. Kgd.)

Year.	Number.
1881	81,533
1882	85,440
1883	84,206
1884	132,649
1885	130,532
1886	118,195
1887	116,000
1888	113,649
1889	112,767
1890	112,667
1891	108,221
1892	108,140
1893	110,720
1894	103,581
1895	99,705
1896	119,922
1897	121,000
1898	121,505
1899	122,000
1900	118,800
1901	120,000 (est)
1902	120,000 "
1903	119,000 "
1904	107,770
1905	111,703
1906	110,258
1907	105,045
1908	102,400
1909	110,006
1910	110,506
1911	108,114
1912	116,236
1913	
1914	115,000 YrBk
1915	
1916	
1917	
1918	
1919	
1920	

Number of cattle in Jamaica (1945-1950)

Year	Number of cattle
1945	1,000,000
1946	1,000,000
1947	1,000,000
1948	1,000,000
1949	1,000,000
1950	1,000,000
1951	1,000,000
1952	1,000,000
1953	1,000,000
1954	1,000,000
1955	1,000,000
1956	1,000,000
1957	1,000,000
1958	1,000,000
1959	1,000,000
1960	1,000,000
1961	1,000,000
1962	1,000,000
1963	1,000,000
1964	1,000,000
1965	1,000,000
1966	1,000,000
1967	1,000,000
1968	1,000,000
1969	1,000,000
1970	1,000,000
1971	1,000,000
1972	1,000,000
1973	1,000,000
1974	1,000,000
1975	1,000,000
1976	1,000,000
1977	1,000,000
1978	1,000,000
1979	1,000,000
1980	1,000,000

J A I M A C A .

Importations:

Table 1.

Table \_\_\_\_ Amounts of butter and cheese and value of condensed milk imported into Jamaica. (Stat. Abs. United Kingdom)

Sep.30. Year.	Butter. #	Cheese. #	Value of Condensed milk. (*) £
1880	524,272	x	x
1881	612,640	x	x
1882	503,776	x	x
1883	621,376	x	x
1884	614,656	x	x
1885	679,952	x	x
1886	701,456	x	x
1887	646,704	x	\$41,189
1888	668,192	x	37,854
1889	625,968	x	50,266
1890	753,984	x	x
1891*	722,960	x	237,270
1892	825,552	x	89,560
1893	937,552	x	103,207
1894	963,200	x	124,965
1895	1,005,760	x	124,513
1896	1,005,872	x	145,207
1897	851,200	x	142,826
1898	884,800	x	139,297
1899	750,624	244,845	111,649
1900	821,856	220,569	118,394
1901	733,152	187,637	139,881
1902	749,168	174,006	146,435
1903	813,344	201,854	137,227
1904	897,680	227,363	153,975
1905	861,392	184,080	126,151
1906	796,096	190,111	138,947
1907	871,024	219,319	128,450
1908	980,000	243,991	174,280
1909**	946,624	211,896	167,320
1910	1,067,696	228,590	210,846
1911	1,118,484	235,125	258,218
1912	1,121,344	231,828	278,118
1913			
1914			
1915			
1916			
1917			
1918			
1919			
1920			



# C H I L E.

## Schools:

Chilean School of Agriculture. Dairying one of 8 branches taught.

## Cattle:

"This is one of the South American countries for which the estimates of the number of cattle are to be taken with considerable uncertainty. Apparently there were 863,000 cattle in Chili in 1901, but according to the estimate the number has grown to 2,675,000 in 1906. If this number for 1906 is to be accepted as approximately correct, the number of cattle declined to 1,635,000 in 1910, four years later. The estimates subsequent to 1910 show an increase to 1,960,000 cattle in 1913, or about 775,000 cattle below the figure of 1906. The estimates for dairy cows in recent years are nearly 200,000." (Meat Situation in the United States, Report 109, G.K.Holmes, p-28)

Table \_\_\_\_\_ Total cattle, dairy cows and milk products statistics.  
(Amario Estadistico)

Year.	Total cattle. Head.	Dairy cows. (milked)	Milk produced. (Gals)	Butter made. Lbs.	Cheese made. Lbs.
1885	304,174	x	x	x	x
1901	862,953	x	x	x	x
1902-3	969,368	104,372	x	835,149	5,525,830
1903-4	865,102	116,208	x	1,236,393	28,119,012(?)
1904-5	x	124,657	x	1,817,878	4,901,708
1905-6	x	92,413	x	5,442,203	3,875,025
1906-7	2,674,666	x	x	x	x
1907	x	205,084	31,233,415	2,821,143	7,342,169
1908	2,303,659	216,137	32,752,923	2,197,667	7,157,653
1909	x	183,443	31,129,030	3,267,462	10,732,268
1910	1,635,140	191,077	30,042,931	2,564,993	6,446,354
1911	1,640,322	195,267	33,320,060	2,945,191	7,702,160
1912	1,760,272	179,099	37,841,946	2,767,655	7,442,068
1913	1,960,020	183,163	36,141,653	2,701,076	6,302,510
1914	1,943,954	165,780	37,887,654	1,924,102,	5,298,154
1915					
1916					
1917					
1918					
1919					
1920					

tion in the United States, Report 109, G.K.Holmes, p-28)

(Ameyo Patastasio)

# CHILE.

Cattle:

Imports and Exports:

Table \_\_\_\_\_. Number of cattle imported and exported. (Official reports)

Year.	Cattle imported.	Cattle exported.
1900	x	x
1901	47,267	x
1902	45,990	13
1903	56,163	x
1904	60,211	57
1905	57,790	48
1906	48,871	489
1907	68,031	94
1908	105,228	86
1909	127,847	46
1910	81,339	111
1911	101,955	1,143
1912	84,075	27
1913	62,911	2
1914	35,354	48
1915	28,274	39
1916		
1917		
1918		
1919		
1920		

Table \_\_\_\_\_. Amounts of natural and sterilized milk, milk powder, and oleomargarine imported and exported. (Official reports)

I m p o r t s .

Year.	Natural and Ster. milk.	Milk powder.	Oleomargarine.
1912	117,036	x	x
1913	162,664	x	25,232
1914	91,844	14,383	77,426
1915	12,368	x	9,634
1916			
1917			
1918			
1919			
1920			

(No exports )



# CHILE.

## Imports and Exports: Dairy Products:

Table \_\_\_\_ . Dairy Products imported and exported,  
(Official reports)

Year.	Imports.			Exports.	
	Butter.	Cheese.	Cond. Milk.	Butter.	Cheese.
	#	#	#	#	#
1879	x	48,999	x	78,003	236,417
1886	2,317	133,109	130,635	167,988	340,126
1887	5,633	140,122	207,287	59,346	122,036
1888	x	198,935	356,797	56,462	133,114
1889	x	178,132	444,952	99,328	323,029
1890	x	161,053	307,732	147,779	244,631
1891	x	107,084	366,186	131,134	161,930
1892	406	311,530	614,111	121,561	284,235
1893	3,781	260,546	641,459	144,018	317,720
1894	5,018	151,745	478,292	144,545	364,894
1895	10,320	279,149	659,092	218,427	380,362
1896	3,479	265,665	619,164	233,551	317,608
1897	3,543	347,346	751,936	160,440	222,744
1898	x	155,645	502,120	237,715	341,938
1899	x	171,983	516,304	104,073	211,672
1900	x	251,075	734,421	109,015	227,848
1901	1,296	215,608	688,871	157,223	321,852
1902	3,468	230,793	858,427	246,391	322,061
1903	1,852	305,491	816,165	123,557	256,911
1904	3,285	338,564	1,080,122	38,162	85,278
1905	4,156	364,222	1,375,825	17,209	71,627
1906	22,663	339,685	2,103,100	4,661	53,484
1907	131,361	502,274	2,513,156	11,905	48,832
1908	140,918	345,648	2,222,060	3,197	29,496
1909	104,994	523,923	1,349,965	1,587	32,716
1910	207,497	507,752	1,627,877	2,425	24,691
1911	636,622	681,144	2,185,288	3,858	27,778
1912	1,047,604	847,977	2,489,642	x	22,112
1913	1,351,188	835,341	2,752,006*	3,968	2,712
1914	985,897	505,327	2,550,462	419	2,535
1915	314,144	419,767	1,573,930	2,844	440
1916					
1917					
1918					
1919					
1920					

(\*) During the year 1913 the only exportation of condensed milk was made, and amounted to 5,555 pounds.

In 1848 the export of butter from Chile was 13,632 lbs. and cheese 210,100 lbs.

Note: In a Consular Report for the year 1913, it is stated that the condensed milk importation amounted to about \$75,000, of which Switzerland supplied about three-fourths.

It further states that the butter imports are from Argentina and Uruguay.

Table 1. Dairy products imported and exported.  
(Official reports)

Year	Imports	Exports	Condensed Milk
1920	1,351,163	2,520,463	1,172,930
1921	1,351,163	2,520,463	1,172,930
1922	1,351,163	2,520,463	1,172,930
1923	1,351,163	2,520,463	1,172,930
1924	1,351,163	2,520,463	1,172,930
1925	1,351,163	2,520,463	1,172,930
1926	1,351,163	2,520,463	1,172,930
1927	1,351,163	2,520,463	1,172,930
1928	1,351,163	2,520,463	1,172,930
1929	1,351,163	2,520,463	1,172,930
1930	1,351,163	2,520,463	1,172,930
1931	1,351,163	2,520,463	1,172,930
1932	1,351,163	2,520,463	1,172,930
1933	1,351,163	2,520,463	1,172,930
1934	1,351,163	2,520,463	1,172,930
1935	1,351,163	2,520,463	1,172,930
1936	1,351,163	2,520,463	1,172,930
1937	1,351,163	2,520,463	1,172,930
1938	1,351,163	2,520,463	1,172,930
1939	1,351,163	2,520,463	1,172,930
1940	1,351,163	2,520,463	1,172,930
1941	1,351,163	2,520,463	1,172,930
1942	1,351,163	2,520,463	1,172,930
1943	1,351,163	2,520,463	1,172,930
1944	1,351,163	2,520,463	1,172,930
1945	1,351,163	2,520,463	1,172,930
1946	1,351,163	2,520,463	1,172,930
1947	1,351,163	2,520,463	1,172,930
1948	1,351,163	2,520,463	1,172,930
1949	1,351,163	2,520,463	1,172,930
1950	1,351,163	2,520,463	1,172,930
1951	1,351,163	2,520,463	1,172,930
1952	1,351,163	2,520,463	1,172,930
1953	1,351,163	2,520,463	1,172,930
1954	1,351,163	2,520,463	1,172,930
1955	1,351,163	2,520,463	1,172,930
1956	1,351,163	2,520,463	1,172,930
1957	1,351,163	2,520,463	1,172,930
1958	1,351,163	2,520,463	1,172,930
1959	1,351,163	2,520,463	1,172,930
1960	1,351,163	2,520,463	1,172,930
1961	1,351,163	2,520,463	1,172,930
1962	1,351,163	2,520,463	1,172,930
1963	1,351,163	2,520,463	1,172,930
1964	1,351,163	2,520,463	1,172,930
1965	1,351,163	2,520,463	1,172,930
1966	1,351,163	2,520,463	1,172,930
1967	1,351,163	2,520,463	1,172,930
1968	1,351,163	2,520,463	1,172,930
1969	1,351,163	2,520,463	1,172,930
1970	1,351,163	2,520,463	1,172,930
1971	1,351,163	2,520,463	1,172,930
1972	1,351,163	2,520,463	1,172,930
1973	1,351,163	2,520,463	1,172,930
1974	1,351,163	2,520,463	1,172,930
1975	1,351,163	2,520,463	1,172,930
1976	1,351,163	2,520,463	1,172,930
1977	1,351,163	2,520,463	1,172,930
1978	1,351,163	2,520,463	1,172,930
1979	1,351,163	2,520,463	1,172,930
1980	1,351,163	2,520,463	1,172,930
1981	1,351,163	2,520,463	1,172,930
1982	1,351,163	2,520,463	1,172,930
1983	1,351,163	2,520,463	1,172,930
1984	1,351,163	2,520,463	1,172,930
1985	1,351,163	2,520,463	1,172,930
1986	1,351,163	2,520,463	1,172,930
1987	1,351,163	2,520,463	1,172,930
1988	1,351,163	2,520,463	1,172,930
1989	1,351,163	2,520,463	1,172,930
1990	1,351,163	2,520,463	1,172,930
1991	1,351,163	2,520,463	1,172,930
1992	1,351,163	2,520,463	1,172,930
1993	1,351,163	2,520,463	1,172,930
1994	1,351,163	2,520,463	1,172,930
1995	1,351,163	2,520,463	1,172,930
1996	1,351,163	2,520,463	1,172,930
1997	1,351,163	2,520,463	1,172,930
1998	1,351,163	2,520,463	1,172,930
1999	1,351,163	2,520,463	1,172,930
2000	1,351,163	2,520,463	1,172,930

(\*) During the year 1916 the only exportation of condensed milk was made, and amounted to 5,633 pounds.

In 1846 the export of butter from Chile was 13,632 lbs

In a Consular Report for the year 1915, it is stated that the condensed milk importation amounted to about \$75,000, of which Switzerland supplied about 70,000. It further states that the butter imports are from Argentina and Uruguay.

C H I L E.

TRADE WITH THE UNITED STATES.

Importations:

Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	B u t t e r.		C h e e s e.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
	#	\$	#	\$	#	\$
1911	772	221	317	60	13,270	1,029
1912	102	34	x	x	12,886	1,032
1913	1,428	493	111	26	25,531	2,118
1914	522	150	7,723	1,319	118,501	9,288
1915	17,740	5,987	1,647	292	258,959	20,965
1916	2,360	664	1,365	319	547,035	45,432
1917						
1918						
1919						
1920						



# COLOMBIA.

## Cattle:

Table \_\_\_\_, Number of cattle in Colombia.  
(Report 109, Dept. Agr. U.S.A.)

Year. Total cattle.

1893	2,500,000
1896	3,465,000
1909	4,000,000
1915	7,000,000
1916	
1917	
1918	
1919	
1920	

"Little dependence can be placed on the estimates of cattle in this country. As far back as 1897 it was supposed that the cattle numbered 2,500,000, followed by an increase to 3,465 in 1896. In 1909 the estimate did not exceed 4,000,000, but six years later, in 1915, there is an estimate of 7,000,000." (Past Situation in the United States, Report 109, p-29, G.K. Holmes.)

## TRADE WITH THE UNITED STATES

### Exportation:

Year.	Butter.		Cheese.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	30,190	6,151	4,764	854	25,864	2,400
1912	22,217	5,405	2,585	503	41,583	3,662
1913	29,035	5,630	4,749	861	26,560	2,341
1914	13,218	4,014	3,367	647	31,035	2,694
1915	21,416	6,706	8,755	1,623	58,579	4,887
1916	35,909	8,632	15,748	3,516	111,841	9,958
1917						
1918						
1919						
1920						



# C O S T A R I C A

(Population, 1914, 420,179)

Cattle:

Table \_\_\_\_\_. Number of cattle in Costa Rica. (Official)  
(Bul. 41:592, Pan. Amer. Union.)

Year.	Cattle.	Cows.	Factories of milk products. (Census, 1907)
1888	262,596	X	
1889	316,925	X	Dairies - - - - - 769
1890	348,665	X	Cheese factories 218
1891	345,665	X	Creameries - - - - 62
1893	389,605	X	Output of factories:
1903	361,045	110,502	Milk - - - - - 3,922 gals.
1907	273,630*	95,462*	Cheese - - - - - 3,210 lbs.
1914	337,061	X	Butter - - - - - 500 "
1915			- - - - -
1916			
1917			
1918			
1919			
1920			

(\*) Census figures.

Table \_\_\_\_\_. Number of cattle imported and exported.  
(Official)

Year. Cattle imported. Cattle exported.

1897	18,541	X
1898	X	X
1899	X	X
1900	X	2,017
1901	X	600
1902	X	110
1903	16,149	1,694
1904	14,639	523
1905	10,543	X
1906	11,494	37
1907	27,539	2
1908	8,613	X
1909	X	X
1910	X	X
1911	154*	X
1912	10,186	X
1913	10,098	X
1914	X	X
1915	4,793	X
1916		X
1917		
1918		
1919		

(\*) Oxen only.

Statement of the Board of Directors of the  
[illegible]

Assets		Liabilities		Total
1914	1915	1914	1915	
Real Estate	100,000.00	Accounts Payable	50,000.00	150,000.00
Investments	200,000.00	Notes Payable	100,000.00	300,000.00
Receivables	50,000.00	Other Liabilities	20,000.00	350,000.00
Prepaid Expenses	10,000.00			
Depreciation	20,000.00			
Reserve for Depreciation	10,000.00			
Unearned Income	10,000.00			
Other Assets	10,000.00			
Total	400,000.00	Total	270,000.00	670,000.00

Respectfully,  
[illegible]

Statement of the Board of Directors of the  
[illegible]

Assets		Liabilities		Total
1914	1915	1914	1915	
Real Estate	100,000.00	Accounts Payable	50,000.00	150,000.00
Investments	200,000.00	Notes Payable	100,000.00	300,000.00
Receivables	50,000.00	Other Liabilities	20,000.00	350,000.00
Prepaid Expenses	10,000.00			
Depreciation	20,000.00			
Reserve for Depreciation	10,000.00			
Unearned Income	10,000.00			
Other Assets	10,000.00			
Total	400,000.00	Total	270,000.00	670,000.00

# C O S T A R I C A.

## Imports and Exports:

Table \_\_\_\_\_. Imports and exports of butter, cheese, condensed milk, oleomargarine, and sterilized milk. (Official)

Year.	I m p o r t s .				Steril- ized milk.		EXPORT. Cheese.
	Butter.	Cheese.	Cond. milk.	Oleomargarine.			
	#	#	#	#	#	#	#
1883	39,134	35,092	X	X	X		400
1884	55,075	44,588	X	X	X		X
1885	49,057	69,720	X	X	X		198
1886	22,520	30,005	X	X	X		41
1887	43,887	66,380	X	X	X		X
1888	55,390	110,929	X	X	X		X
1889	72,375	129,915	X	X	X		X
1890	84,498	152,946	X	X	X		247
1891	98,226	161,921	X	X	X		3,448
1892	71,175	86,888	X	X	X		X
1893	85,102	74,679	X	X	X		X
1894	X	X	X	X	X		X
1895	X	X	X	X	X		X
1896	X	X	X	X	X		X
1897	X	X	X	X	X		X
1898	X	X	X	X	X		X
1899	X	X	X	X	X		X
1900	X	X	X	X	X		X
1901	X	X	X	X	X		X
1902	X	X	X	X	X		X
1903	57,390	95,181	317,773	3,957	X		X
1904	84,778	112,906	410,093	45,527	X		X
1905	67,304	115,702	509,986	51,527	X		X
1906	88,839	152,907	588,725	78,305	X		X
1907	103,140	207,358	689,281	90,997	X		X
1908	117,620	124,785	591,132	100,499	X		X
1909	105,664	124,785	691,226	104,187	X		X
1910	118,965	194,364	628,106	80,836	X		X
1911	187,752	314,693	821,233	133,555	X		X
1912	130,887	210,846	700,195	92,494	X		X
1913	122,730	244,847	716,736	93,087	X		X
1914	110,724	252,824	1,020,354	81,702	X		X
1915	24,486	52,672	245,579	54,385	16,486*		780
1916							
1917							
1918							
1919							
1920							

(\*) First record of sterilized milk.



C O S T A R I C A.

Importations:

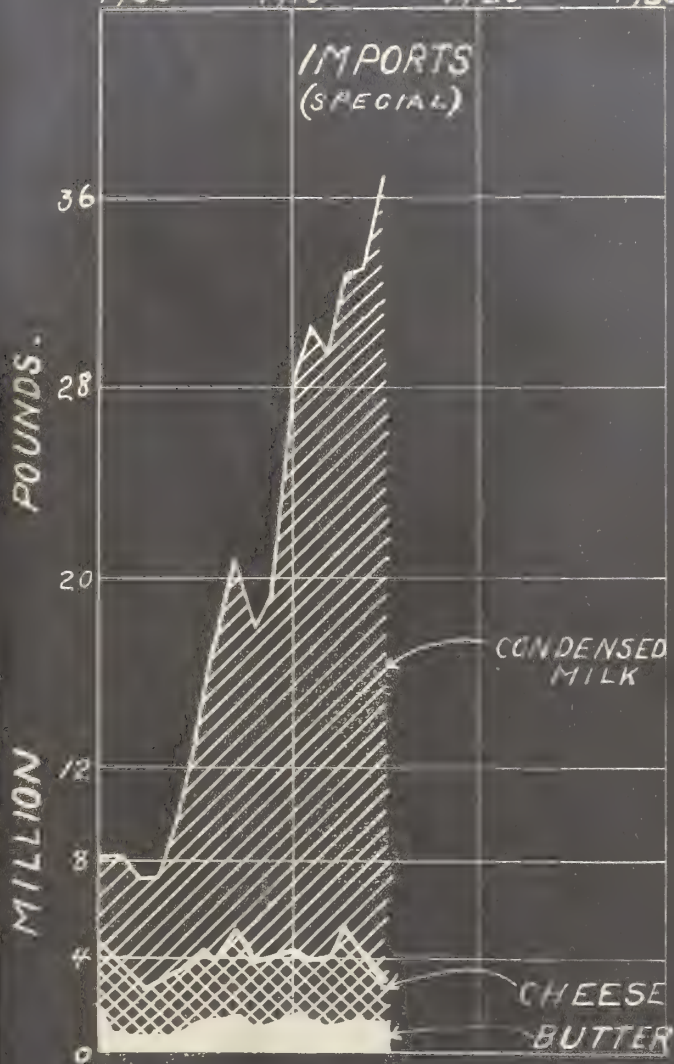
Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce reports, U. S. A.)

Year.	B u t t e r.		C h e e s e.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	5,330	1,510	47,556	7,456	28,565	2,158
1912	10,692	3,246	35,180	5,633	2,492	203
1913	8,148	2,654	32,329	4,822	10,037	914
1914	10,264	3,314	56,074	9,350	3,546	784
1915	5,792	1,794	24,684	4,274	133,653	11,799
1916	6,194	2,432	25,426	4,651	172,203	13,805
1917						
1918						
1919						
1920						



# CUBA - MILK PRODUCTS.

1900 1910 1920 1930





# C U B A.

## Cattle:

"The record of Cuba extends back to 1891, when the estimated number of cattle on that island was 2,456,000, and the number/abaut stationary until the insurrection against Spain, which was terminated by the war of the United States against Spain in 1898. The census taken by the United States in 1899 found only 376,650 cattle on and off farms in Cuba. The estimates in subsequent years indicated a steady increase until 1910, when it is supposed that there were 3,212,000 cattle on the island. Two years later the cattle had fallen away from that figure by about 400,000 head. The indication is that the number of Cuban cattle had begun to decline, but in the absence of estimates for years subsequent to 1912 the basis for this supposition is merely an indication." (Cattle Situation in the United States, Report 109, -23  
G. K. Holmes)

The 1914 estimate shows a very large increase instead of a decline in the number of cattle, being 3,395,000 head.

Table \_\_\_\_\_. Number of cattle in Cuba.

(Official reports, & Report 109, Dept. of Agr. U.S.A.)

Year. Total cattle.

1891	2,455,788
1892	2,535,309
1895	2,425,756
1899*	376,650
1901	659,533
1902	999,362
1903	1,315,826
1904	1,703,069
1905	2,170,606
1906	2,566,870
1907	2,723,163
1908	2,892,457
1909	3,075,630
1910	3,098,138
1911	2,529,423
1912	2,429,533
1913	x
1914	3,395,000

Number of cows in Cuba.  
(Bul. Econ. Intel., 1910)

1909	1,637,936
1910	1,669,109

1915  
1916  
1917  
1918  
1919



Cattle:Imports & Exports:

Table \_\_\_\_\_. Number of cattle imported and exported.

(Official reports - Sept. 1900, Dec. 1919 - April, 1920.)

Year. Cattle imported. Cattle exported.

1900	354,564	x
1901	299,530	x
1902	347,648	x
1903	252,351	x
1904	386,678	x
1905	351,582	x
1906	410,425	x
1907	110,980	x
1908	59,375	x
1909	4,275	x
1910	188	x
1911	188	x
1912	211	47
1913	298	19
1914	382	20
1915	926	720
1916		
1917		
1918		
1919		
1920		

Table \_\_\_\_\_. Imports and exports of dairy products.

(Official reports)

(Spanish pounds) (equal to 1.0161 U.S. pounds)

(calendar)

Imports.

Exports.

Year. Butter. Cheese. Cond.milk. Butter. Cheese. Cond.milk.

*(1900	1,552,307**	4,415,070	x	x	x	x
*(1901	525,284	3,659,340	8,100,482	x	6,400	x
*(1902	532,855**	2,878,956**	7,056,221**	x	2,953**	x
(1903	760,993	2,900,902	7,407,235	x	16,953	x
1904	908,532	3,583,992	9,665,425	x	12,734	x
1905	1,503,275	4,202,437	13,550,995	x	10,652	x
1906	1,312,296	4,072,517	16,944,895	x	10,143	x
1907	1,301,656	3,282,458	20,911,303	x	22,100	x
1908	1,164,357	4,147,130	17,900,302	x	12,932	x
1909	1,321,535	4,100,493	19,403,212	x	9,134	x
1910	1,320,424	4,307,741	27,043,214	x	7,321	x
1911	1,474,802	4,221,944	30,600,361	x	7,461	x
1912	1,101,314	4,175,230	29,804,094	x	3,373	x
1913	1,350,522	5,124,069	32,937,705	x	3,322	x
1914	1,426,223	4,170,709	32,037,714	x	3,751	x
*1915	1,253,249	3,342,163	31,560,908	x	2,421	x
1916			32,275,870			
1917						
1918						
1919						
1920						

(\*). Ended June 30. (\*\*) For 11 months only.



Imports:Imports from the United States.Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce Reports, U.S.C.)

Year.	B u t t e r.		C h e e s e.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	520,754	75,504	167,509	31,081	4,257,387	323,633
1912	221,103	50,922	138,702	28,187	7,370,717	630,403
1913	192,712	57,022	146,121	33,000	6,466,870	594,421
1914	205,581	54,412	200,146	41,927	6,190,997	555,809
1915	234,454	71,529	457,911	83,297	8,391,420	765,408
1916	311,141	83,994	1,602,632	297,495	27,678,974	2,426,046
1917						
1918						
1919						
1920						

Consul John B. Calvert, Nouvitas, Cuba, Feb. 4, 1918.

There is one condensing factory in Camaguey, Cuba, owned by the Cuban Company. "It is claimed that for two years it has sent to Havana five tons of condensed milk daily." \* \* \* "Natural milk is sold in all parts of Cuba, but condensed milk is in very general use, and is consumed in relatively large quantities. According to the census of 1907 there were at that time 3,570,422 head of cattle in the Republic, which number it is now estimated has now risen to 3,000,000. Camaguey, having an extensive pasture area, is the largest cattle-raising province on the island." \* "Natural milk in Nouvitas weighs in about 12 1/2 lbs. average the quart, and is not very good quality. The price charged for condensed milk at retail was not more than 30¢ being charged for a 12 oz. tin of the condensed, and 20¢ for the same sized tin of evaporated milk.

During the year 1915, 35,376.37 pounds of condensed (including evaporated) milk, valued at \$2,723,547, were imported into Cuba, practically all being exported from the United States."



# E C U A D O R.

## Cattle:

### & Imports:

Consul report states: 1907, "No statistics have been published and no official estimate made of livestock."

## Imports & Exports:

The only report of imports were for the year 1914, which were: as

Butter imported, 1914, - - - - - 16,444 lbs.

Cheese " " - - - - - 53,753 "

No report of exports of milk products was found.

## TRADE WITH THE UNITED STATES.

Table \_\_\_\_: Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	B u t t e r.		C h e e s e.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
	#	\$	#	\$	#	\$
1911	233	78	994	198	6,432	522
1912	120	30	834	98	14,352	1,180
1913	170	51	1,008	161	4,326	414
1914	759	260	11,868	2,060	7,241	217
1915	814	303	31,131	8,424	13,529	1,300
1916	978	305	2,016	217	27,492	2,277
1917						
1918						
1919						
1920						

\* Approved by the Board of Directors January 1964

Source: *Journal of the American Statistical Association*, 1991, 86, 103-111.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Year	1990	1991	1992	1993	1994	1995
1990	100	100	100	100	100	100
1991	100	100	100	100	100	100
1992	100	100	100	100	100	100
1993	100	100	100	100	100	100
1994	100	100	100	100	100	100
1995	100	100	100	100	100	100

ECUADOR.

CATTLE:

Dairy Industry in Ecuador.

(Consul General Dr. Frederick W. Godin, Guayaquil, June, 1918)

"In reference to data on the Dairy Industry in Ecuador, there are none. All we or the Government know on the subject is that 155,237 hides were utilized locally or exported in some form; and estimating that as 15 per cent of the whole, which is a safe one, the total number of cattle in Ecuador last year would be 1,030,000 - fairly correct. It is impossible to estimate the number of dairy cattle, horses, mules, sheep and goats, as there is no basis to work on that I have been able to learn as yet. The Ecuadorian Government is planning to take a livestock census very soon; if they do so, we may know something about the subject."



# GUATEMALA.

## Cattle &

### Dairy products:

Total number of cattle in country, end of 1915: 619,095 head.  
(Mo. Bul. Pan-Am. Union, Aug. 1915)

## Imports & Exports:

Table \_\_\_\_\_. Imports and exports of milk products. (Official)

Year.	<u>Imports.</u>		(No exports found)
	Butter.	Cheese.	
1904	12,471	51,962	
1905	23,609	60,302	
1906	x	x	
1907	x	x	
1908	31,715	41,316	
1909	29,815	46,887	
1910	x	x	
1911	25,254	59,575	
1912	46,393	79,042	
1913	69,176	125,521	
1914	46,863	83,512	
1915	24,103	26,843	
1916			
1917			
1918			
1919			
1920			

## TRADE WITH THE UNITED STATES.

Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	<u>Butter.</u>		<u>Cheese.</u>		<u>Condensed milk.</u>	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	10,243	8,116	22,864	3,762	53,343	4,345
1912	17,233	9,300	23,935	4,571	38,438	3,111
1913	21,222	6,257	30,943	5,599	40,386	3,357
1914	13,022	5,756	32,120	5,902	35,724	3,061
1915	10,676	3,402	13,142	2,739	33,929	7,234
1916	16,863	5,756	27,122	1,542	86,334	7,624
1917						
1918						
1919						
1920						



# GUATEMALA.

## DAIRYING.

(Extract from a report by Mr. Sam H. Ray, of the Animal Husbandry Division, regarding livestock industry in Guatemala, 1913)

Milk, butter and cheese are found in almost every household in the republic of Guatemala. Most of the dairies which we found in the republic are rather small but in the city of Guatemala and one or two of the other larger cities very good dairy establishments were found. In Guatemala City at the present time there exists six or eight farms that are engaged in the production of milk, cheese and butter.

The system of marketing these products in that city is rather peculiar. The dairyman maintains a farm where feeds such as cane, corn, para grass and guinea grass are grown. The cattle are driven from this place night and morning to an establishment which the dairyman maintains in the city. At this place the cattle are fed grain and milked. From this point the milk is delivered either in a small cart or by mules which have large milk cans strapped on their backs. In one of the principal streets of Guatemala City both night and morning one can see a large herd of Holstein cattle tied to posts along the sidewalk. These cattle are driven in from the farm and tied up here in front of the residence of the dairyman for feeding and milking. One dairy which we visited in Guatemala City kept its cows tied up most all the time. These cattle were housed in a well equipped dairy barn. The feed for these cattle was brought in on carts night and morning. During almost the entire year the Guatemala dairyman has green feed cut fresh from the fields for his dairy cows. Most of the dairymen have Holstein cattle and some very good individuals were seen. Several years ago a large shipment of this dairy breed were imported from the United States and Holland. I was informed that the last shipment of these cattle was in the year 1907.

Near the city of Antigua we were fortunate in visiting a dairy farm that previously had belonged to the President of Guatemala.

THE UNIVERSITY OF CHICAGO  
 DIVISION OF THE PHYSICAL SCIENCES

REPORT OF THE DIVISION OF THE PHYSICAL SCIENCES

FOR THE YEAR 1911

CHICAGO, ILL., 1911

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CHICAGO, ILL., 1911

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At the present time this dairy is being managed by a young native who is a graduate not only of a French dairy school, but also has taken work at the University of Missouri. This young man is making a thorough study of the dairy industry in that country. This farm boasts the only site of the republic, several modern machines as well as several other conveniences which are employed in the management of the cattle and dairy and the preparation of feeds. Among the forage crops which he is feeding are corn, sorghum, beans, and the native grasses. The products of this farm are butter, cheese, milk and cream. The butter which this dairymen is making is of a very superior quality and is made entirely without the use of refrigeration. Most of the butter of the Republic is of a very inferior quality. Antigua is located in the mountain regions where the temperature is such that milk, cream and butter can be kept in a sweet condition without the use of ice. There are no dairies located in the Pacific coast region. All of them are found adjacent to the larger cities and these cities are located in the mountain regions.



D U T C H   G U I A N A .

Cattle:

Number of cattle, 1914,      8,000, (Yr.Bk.Dept. Agr. U.S.A. 1916)

(See British Guiana for trade with the United States)

F R E N C H   G U I A N A .

Cattle:

Number of cattle, 1914,      400,000. (Yr.Bk.Dept. Agr. U.S.A.,1916)

(See British Guiana for trade with the United States)

BRITISH GUIANA

(See British West Indies)

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# H A I T I.

## Cattle:

Number of cattle(including San Domingue) according to "Die Insel Haiti"  
page 213, was:

1780 - - - - - 200,000

1800 - - - - - 100,000

No later statistics found.

Butter: Butter imported in 1890 amounted to \$112,276.

## TRADE WITH THE UNITED STATES.

### Importations:

Table \_\_\_\_\_. Importation of dairy products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	B u t t e r.		C h e e s e.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	371,640	70,985	10,695	7,364	7,922	807
1912	519,406	100,051	57,567	11,071	25,305	2,586
1913	524,067	104,853	54,043	12,593	33,064	2,659
1914	397,140	60,170	31,672	5,710	13,177	1,261
1915	293,931	56,719	16,523	3,335	15,457	1,301
1916	426,200	61,615	52,690	12,235	19,726	1,765
1917						
1918						
1919						
1920						

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1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

Date		Description		Amount		Balance	
Month	Day	Particulars	Debit	Credit	Debit	Credit	Balance
1914	1	Balance forward			100.00		100.00
1914	2	By Cash		50.00		50.00	150.00
1914	3	To Cash	25.00		25.00		125.00
1914	4	By Cash		75.00		75.00	200.00
1914	5	To Cash	100.00		100.00		100.00
1914	6	By Cash		25.00		25.00	125.00
1914	7	To Cash	50.00		50.00		75.00
1914	8	By Cash		100.00		100.00	175.00
1914	9	To Cash	25.00		25.00		150.00
1914	10	By Cash		50.00		50.00	200.00
1914	11	To Cash	75.00		75.00		125.00
1914	12	By Cash		25.00		25.00	150.00
1914	13	To Cash	100.00		100.00		50.00
1914	14	By Cash		75.00		75.00	125.00
1914	15	To Cash	50.00		50.00		75.00
1914	16	By Cash		100.00		100.00	175.00
1914	17	To Cash	25.00		25.00		150.00
1914	18	By Cash		50.00		50.00	200.00
1914	19	To Cash	75.00		75.00		125.00
1914	20	By Cash		25.00		25.00	150.00
1914	21	To Cash	100.00		100.00		50.00
1914	22	By Cash		75.00		75.00	125.00
1914	23	To Cash	50.00		50.00		75.00
1914	24	By Cash		100.00		100.00	175.00
1914	25	To Cash	25.00		25.00		150.00
1914	26	By Cash		50.00		50.00	200.00
1914	27	To Cash	75.00		75.00		125.00
1914	28	By Cash		25.00		25.00	150.00
1914	29	To Cash	100.00		100.00		50.00
1914	30	By Cash		75.00		75.00	125.00
1914	31	To Cash	50.00		50.00		75.00
1915	1	By Cash		100.00		100.00	175.00
1915	2	To Cash	25.00		25.00		150.00
1915	3	By Cash		50.00		50.00	200.00
1915	4	To Cash	75.00		75.00		125.00
1915	5	By Cash		25.00		25.00	150.00
1915	6	To Cash	100.00		100.00		50.00
1915	7	By Cash		75.00		75.00	125.00
1915	8	To Cash	50.00		50.00		75.00
1915	9	By Cash		100.00		100.00	175.00
1915	10	To Cash	25.00		25.00		150.00
1915	11	By Cash		50.00		50.00	200.00
1915	12	To Cash	75.00		75.00		125.00
1915	13	By Cash		25.00		25.00	150.00
1915	14	To Cash	100.00		100.00		50.00
1915	15	By Cash		75.00		75.00	125.00
1915	16	To Cash	50.00		50.00		75.00
1915	17	By Cash		100.00		100.00	175.00
1915	18	To Cash	25.00		25.00		150.00
1915	19	By Cash		50.00		50.00	200.00
1915	20	To Cash	75.00		75.00		125.00
1915	21	By Cash		25.00		25.00	150.00

# HONDURAS.

## Cattle:

Number of cattle, 1914, were 439,200. (Yr.Bk.1916, Dept.Agr.U.S.A.)

## Imports and Exports:

Table \_\_\_\_\_. Imports and exports of cattle, butter and cheese. (Official)

Year.	<u>I m p o r t s.</u>			<u>E x p o r t s.</u>		
	Cattle.	Butter.	Cheese.	Cattle.	Butter.	Cheese.
1888-9	x	x	x	20,164	x	x
1900	xx	x	x	11,000	x	x
1903	x	x	x	59,624	x	x
1904	x	x	x	59,756	x	x
1913	x	127,223	125,549	x	x	x
1914	x	122,830	61,424	x	x	x
1915	x	124,420	72,562	x	x	x
1916	x					
1917	x					
1918	x					
1919	x					
1920						

## TRADE WITH THE UNITED STATES.

## Importation:

Table \_\_\_\_\_. Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	<u>B u t t e r.</u>		<u>C h e e s e.</u>		<u>C o n d e n s e d m i l k.</u>	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	43,979	12,563	55,013	5,423	94,340	7,502
1912	48,034	14,641	57,959	6,509	60,714	7,050
1913	64,201	20,881	59,579	10,714	145,204	14,105
1914	73,639	23,396	54,239	9,641	216,833	19,346
1915	84,582	26,495	69,778	12,340	241,481	20,650
1916	101,516	31,831	60,394	11,130	186,596	17,032
1917						
1918						
1919						
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## DAIRYING IN MEXICO.

(By L.L.DeBra, California)

Strictly speaking, there is little or no dairying in Mexico. In a land where corn, and beans, and fruit comprise the main diet and pulque is the favorite beverage, there is, of course, not much demand for high class dairy products.

In the Mexican cities, however, owing probably to the growth of foreign settlements, there has been lately a growing demand for fresh milk, cream and butter. So far, the supply has not been sufficient to meet the requirements.

Native Mexicans do not incline much toward dairying. There are pastures in the state of Vera Cruz and elsewhere that are very rich and where one may see fat cattle contentedly browsing on the green hills. Yet, although there is a scarcity of milk in the nearby cities, and prices run from sixty to seventy-five cents a gallon, the natives do not bother to milk the cows. "Por Dios, Senor," they say, "is it not ver-ry hard work, eh?"

And where they do milk the cows, the natives seem to be blissfully ignorant of even fundamental principles of cleanliness and sanitation. This has led to the almost universal custom of serving only boiled milk in Mexican hotels and restaurants. Indian women meet the trains at most of the villages and offer hot milk for sale. White often these women, who are strongly indisposed to using water for washing purposes, are not backward about putting a liberal portion of water into each bottle of milk. In many cases the milk is served in an empty beer bottle without going through the perfectly useless and arduous task of washing out the beer dregs.

Cream is very scarce on the average Mexican table. Coffee is served cold, very thick, and strong. A little is poured into a cup and the cup then filled up with hot milk. This makes a decoction which the average Mexican considers

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very good coffee but which the American seldom learns to like.

A beverage, refreshing and tasty, and which is as much appreciated as ice cream in America, is the milk of fresh coconuts. Swinging beneath the fronds of the coconut palms in the stinging hot sun, the milk of the coconut is strangely cool and refreshing and is a very popular beverage in Mexico. Ice cream, not very desirable, is sold in the cities by street vendors and in confectionery stores.

The method of delivering milk is strange and picturesque. Two cans of milk are swung across the mule's back. The driver then sits astraddle the mule and, guiding the animal by striking it on the side of the neck, goes leisurely down the street, shouting to announce his coming. They start out very early in the morning to supply their customers with milk for breakfast. It is often impossible to get milk in the cities for the noon meal.

On the great haciendas, where dwell the better class Mexicans, cultivating many, many acres, one will find good cows and plenty of excellent milk and butter. Cheese is a scarce article anywhere in Mexico.

Feed is often difficult to obtain and is usually expensive. In certain places it is necessary for the cattle to travel long distances to find water holes. Yet, if there were a steady and strong demand for good dairy products, dairymen could find places in almost every part of Mexico, except the very hot lands, where plenty of feed grows the year around and where there is an ample supply of water.

Alfalfa thrives anywhere in Mexico. Often it is possible to raise several crops a year in the more favored spots, such as in the State of Guanajuato, enormous quantities of alfalfa are raised.

Corn, however, is the principal feed. Mexico very seldom raises a sufficient quantity of cereals for home consumption. There are fields on the Central Plateau where corn has been raised every season for many centuries before Columbus was born. And the Indian farmers merely stir up the soil

very good coffee but when the weather is cold it is better.

A person, however, who is not used to it, will find it very disagreeable.

For when it is cold, it is not only disagreeable, but it is also very

pleasant to the stomach. It is also very good for the stomach.

It is extremely good and refreshing and is a very popular beverage in India.

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The kind of coffee which is used in India is very good for the

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with a sharp stick just as their ancestors did a thousand years ago.

Quite naturally one wonders what fertilizer is used to accomplish such a marvelous result. It is not barn, and manure, for barnyard manure has a bad habit of hanging around the barn until some one hauls it away, and that, Senior, is work. Nor do they use commercial fertilizer. Here's the secret: Any one who wishes to try it has my permission. They simply bury a little wooden idol in each field so the gods will give them good crops. And the gods have not failed them within the memory of man.

There are places where pasturage is good the year around and where feed is reasonably low priced. On the east coast, by the Tamesi, Panuco, Tempool, and Tamasachale Rivers, is a region known as the Huasteca Potosina where the natural pasture lands in the foot-hills of the Cordilleras are said to be as fine as any in the world. The cattlemen of this district buy up the tough stock of the great plains and fatten them for the market. The west coast is not so well favored. Water is scarce and markets are far distant. Indeed, irrigation seems to be the hope of the whole country, and lately the National Government, as well as the different states, is giving much attention to irrigation projects at least when her people are not engaged in their favorite pastime of shooting their fellowmen.

Not very much can be said of the grade of the cattle. The so-called "mestizo cattle" are a cross between the bull-fighting breeds imported from Spain and the Brown Swiss dairy animals. The result leaves much to be desired from the standpoint of either a beef animal or a dairy type. Locally, however, a few well bred cattle have been imported. On the modern farms one may see Shorthorns, Herefords, and a few others. The trouble is to get the imported and high bred animals acclimated before the climate gets them.

The climate has had its effect on the original Spanish type. Now these animals on the great northern plateaus wander over vast ranges quite accustomed to going long journeys for pasture and water. They are undersized, long-lived

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you are not interested in it to mention it. I have not time or desire to

Source: <http://www.fishbase.org>

Source: U.S. Census Bureau, *Current Population Reports*, 1990.

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On 10/10/1941, the day of the attack on Pearl Harbor, the ship was in the harbor of Honolulu, Hawaii.

and tough. Farther south, where the pasture is better, the cattle are larger and better nourished but, owing to the heat and the insects, they are not nearly so hardy. Neither class can very well be classed as a dairy type.

Most of the stock raised is common in Mexico. There are several packing houses in that country. Lately, there has sprung up quite a growing export trade with the United States and for several years a great many yearlings and two-year olds from the ranges in Chihuahua have been shipped to our stockraisers who fatten them for the market.

Where corn is abundant, hogs are raised quite successfully but it does not appear to be an adjunct of the dairy business. There is considerable interest in hog raising and it is said that this branch of the livestock industry has shown more improvement than any other. \* \* \* \*

Probably no other country in the world is as richly endowed with natural agricultural resources as is Mexico. Its peculiar formation gives it, within a radius of three hundred miles, three distinct climates, tropical, semi-tropical and temperate. One may stand in the eternal snows on the mountain peaks and look away only a few miles to where cotton, rubber trees, and bananas are growing. And within that short stretch grows every variety of plant found between the Arctic Ocean and the equator.

Mexico needs, then, a better demand for high class dairy products, better stock, and wide-awake men with modern methods. Given those, there is no reason why Mexico can not produce dairy products the equal of any produced elsewhere.

(Consular report, 1913, p-321) "The most popular grades of butter are imported from France, put up in neatly packed glass jars with patent sealed covers. Butter is also imported from Denmark and Germany in 1-pound tin cans. All retailing at 62¢ per pound. (Province Frontera.)  
(p-321, 1913) Province, Sonora.

Number cattle.

1908- - - - -	13,080
1909- - - - -	33,445
1910- - - - -	36,399
1911- - - - -	59,423

The native cattle were small but hardy and taking them as a basis the herds have been improved by employing Hereford and Durham bulls, to one-half or three fourths pure blood, as the pure blood are not hardy enough to stand the range.



# MEXICO.

## Cattle:

Total cattle in Mexico, Census, 1902, . . . . . 5,142,457.

## Exports of cattle:

Table \_\_\_\_\_. Number of cattle exported from Mexico. (Official reports)

Year.	Cattle.
-------	---------

1895	154,138
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1896	238,998
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1897	313,633
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1898	227,366
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1899	160,028
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1900	184,185
------	---------

1901	197,624
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1902	166,479
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1903	213,993
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1904	107,413
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1905	99,132
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1906	117,763
------	---------

1907	85,990
------	--------

1908	84,169
------	--------

1909	136,051
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1910	193,326
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1911	170,242
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1912	232,452
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1913	272,861
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1914	
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1915	
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1916	
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1917	
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1918	
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1919	
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1920	
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Imports: The imports of cattle are given in kilograms for the same period and hence would not be comparable. From 1900 to 1903 the amount was approximately 1 million kilograms.

RECEIVED FROM THE STATE OF TEXAS

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# MEXICO.

## Imports and Exports.

Table \_\_\_\_ Imports and exports of dairy products. (Official reports)

(Fiscal/	I M P O R T S			E X P O R T S	
Year.	Butter.	Cheese.	Cond.milk.	Cheese.	Milk(fresh)
1895	203,253	496,738	84,376	x	x
1896	220,253	672,703	130,373	x	x
1897	333,243	666,944	210,317	173,264	x
1898	303,333	713,693	130,021	6,232	x
1899	450,733	993,902	300,170	x	x
1900	465,296	1,101,753	362,757	x	x
1901	532,230	1,121,314	713,342	x	x
1902	603,333	1,373,243	921,301	x	x
1903	556,100	1,322,304	911,567	x	34,753
1904	573,995	1,519,733	1,143,217	x	73,733
1905	845,354	1,537,953	1,149,630	x	49,143
1906	910,317	1,552,832	x	x	39,412
1907	999,503	1,505,471	x	x	36,723
1908	x	x	x	x	x
1909	373,423	1,394,473	x	x	51,713
1910	303,903	1,713,327	x	x	77,333
1911	733,257	1,733,473	x	x	113,596
1912	712,577	1,536,060	x	x	43,537
1913	667,143	1,370,333	x	x	32,393
1914					
1915					
1916					
1917					
1918					
1919					
1920					

## TRADE WITH THE UNITED STATES.

Table \_\_\_\_ Importation of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

(June 30.)	B u t t e r		C h e e s e		Condensed milk.	
Year.	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	427,471	104,295	297,932	43,037	924,444	76,565
1912	413,092	99,653	321,747	53,102	973,792	77,532
1913	337,664	33,434	251,320	43,032	923,332	77,719
1914	133,547	40,423	166,939	31,140	731,993	63,914
1915	133,066	37,063	76,974	14,030	767,122	62,295
1916	167,393	50,493	163,339	31,349	1,499,279	113,653
1917						
1918						
1919						
1920						



## NICARAGUA.

### Cattle:

#### Cattle Raising in Nicaragua. (Consular report, 1915)

"It is impossible to obtain statistics as to the number of cattle in western Nicaragua, but it is estimated that there are approximately 696,000 head. Tipitapa, in the Department of Managua, is the principal cattle market on the Republic, and cattle are bought and sold here at all seasons of the year. Former political disturbances depleted the herds in certain sections of the country, but the orderly conditions that have prevailed during the past three or four years have permitted a slight increase in the supply. The increased prices obtained for hides in foreign markets during 1915 doubtless had a tendency to check this increase, however, hides are tanned locally and are manufactured into shoes, saddles, belts, etc.

The production of cheese and butter is sufficient for the local demand, and the former is exported to the neighboring Central American Republics in small quantities. Cheese is an important article of food for the laboring class, and the annual production probably exceeds 5,000 tons." (1)

(This estimate of 5,000 tons of cheese seems a little high as it would require 100,000,000 pounds of milk to make that much cheese and this at 2,000 pounds per cow would mean 50,000 cows.)



Sept 18 1893

Imports and Exports:

Year.	Imports				Exports			
	Cattle.	Butter.	Cheese.	Wilk.	Cattle.	Butter.	Cheese.	Wilk.
1907	x	x	x	68,016	x	x	x	x
1908	x	x	x	8,800	x	x	x	x
1909	x	x	x	14,967	x	x	x	x
1910	x	x	x	x	x	x	x	x
1911	x	98,367	x	211,803	50	2,608	68,415	x
1912	x	114,004	x	172,862	42	x	30,410	x
1913	x	124,134	x	123,053	7	93	43,927	x
1914	x	111,689	x	151,668	2	26	13,393	x
1915	x	85,293	1,126,705	57	x	1,992	x	x
1916								
1917								
1918								
1919								
1920								

## Experiments

Year.	Butter.		Cheese.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	67,577	13,337	33,441	5,365	125,865	10,061
1912	73,206	21,454	37,991	6,564	152,137	11,244
1913	69,837	22,463	34,595	6,386	194,710	15,929
1914	80,306	22,571	42,984	7,601	124,906	11,253
1915	41,177	12,750	17,653	3,133	79,979	7,168
1916	55,756	17,958	27,460	5,203	103,753	9,800
1917						
1918						
1919						
1920						

*Journal of Interpersonal Violence* 26(10) 1978-1997  
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Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100

Cattle:Cattle Raising in Chiriqui, Panama.

(Bul. of the Pan-American Union, #643-681, April, 1911)

The province of Chiriqui, lying on the Pacific side of the Continental Divide, is admirably adapted for cattle raising. The land is covered by light forest which may be cleared with the machete. At intervals this growth gives place to level expanses of grass covered llano. The prevailing herbage of the llanos is jonjebriillo, which bears a close resemblance to the famous "blue grass" of Kentucky.

The region is abundantly watered. Stock raising is the principal industry of Chiriqui and there are in the province more cattle than in all the rest of the Republic's territory. There can not be more than 50,000 head, all told, in Panama, although there is land in the Republic that would sustain 5,000,000 head of cattle.

There is no better country for economical cattle raising. One acre of its potrero will fatten a steer, whereas 5 acres of the western grazing land in the United States are required to support one.

A potrero is a fattening ground, made by clearing away the natural growth, save for a few shade trees, and, after burning over, planting in the several kinds of fodder plants suitable to the soils.

Cattle can be raised in Chiriqui, and potreros maintained, at an elevation between sea level and 4,500 feet above it.

The price of fattened steers is steadily rising, stimulated by a protective tax imposed by the Government. Cattle are raised in Chiriqui at a cost of slightly more than 1 dollar per head per annum, and it is quite evident that this figure could be reduced by 20 per cent. On a fenced ranch the stock heed hardly any attention. One man, with intermittent help, will look after 1,000 head."

THE HISTORY OF THE  
REIGN OF  
CHARLES THE FIRST

The history of England, from the death of King Henry the eighth to the death of King Charles the first, is a story of great interest and importance. It is a story of the rise and fall of a great monarchy, and of the struggles of the people for liberty and justice. The reign of Charles the first was a period of great crisis and conflict, and it was during this time that the English people first began to assert their rights as free men.

The reign of Charles the first was a period of great crisis and conflict, and it was during this time that the English people first began to assert their rights as free men. The king's policy of absolutism, and his refusal to accept the limitations of the law, led to a series of events which culminated in the execution of the king. The people's demand for a constitution, and for a government which would be responsible to the law, was a demand for a new order of things.

There is no doubt that the execution of the king was a great tragedy, and that it was a great blow to the monarchy. But it was also a great victory for the people, and it was a great step towards the establishment of a new government. The people's demand for a constitution, and for a government which would be responsible to the law, was a demand for a new order of things.

A person is a rational being, and he is entitled to the same rights and liberties as any other person. He is entitled to the same rights and liberties as any other person. He is entitled to the same rights and liberties as any other person. He is entitled to the same rights and liberties as any other person.

There is no doubt that the execution of the king was a great tragedy, and that it was a great blow to the monarchy. But it was also a great victory for the people, and it was a great step towards the establishment of a new government. The people's demand for a constitution, and for a government which would be responsible to the law, was a demand for a new order of things.

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# P A N A M A.

## Cattle and Dairy Products.

Number of cattle in Panama, 1910 census, 120,256  
Do. Bul. Pan-Am-mer, Union, April, 1917, 166,937

Table \_\_\_\_\_. Imports and Exports of milk products. (Official reports.)  
Fig. 17. Imports and Exports of Milk Products. (Special)

I m p o r t s .				
Year.	Butter.	Cheese.	Cond. milk.	Neomargarine. (No exports.)
-----	-----	-----	-----	-----
1909	408,375	373,562	5,245,127	507,594
1910	577,315	394,989	3,939,149	641,785
1911	1,121,046	412,492	5,773,356	700,926
1912				
1913				
1914				
1915				
1916				
1917				
1918				
1919				
1920				

## TRADE WITH THE UNITED STATES.

### Imports:

Table \_\_\_\_\_. Importations of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	B u t t e r		C h e e s e .		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
-----	-----	-----	-----	-----	-----	-----
1911	510,784	141,236	429,177	52,757	1,253,121	96,965
1912	576,566	127,133	527,869	66,336	1,276,953	107,499
1913	573,132	163,062	237,114	76,743	1,334,023	123,260
1914	600,876	163,136	471,560	68,626	1,463,682	111,575
1915	559,809	172,690	431,650	64,961	1,539,599	106,860
1916	621,527	166,612	445,257	63,514	4,071,203	342,462
1917						
1918						
1919						
1920						



## PARAGUAY.

### DAIRY INDUSTRY.

(Consular report, 1915, S.H. Wiley, p-301)

"The milk used for food and drinking in Paraguay comes almost exclusively from the native cow, goats as milk animals being almost unknown. The native cow gives an average of about 8 liters of milk per day, the quality of the milk being in most cases excellent. However, a certain kind of cattle tick is very prevalent in Paraguay and the bordering republics of Brazil and Argentina, making it impossible to import cattle from other countries. The cattle indigenous or acclimated in the regions mentioned seem to suffer no ill effects from the presence of these ticks. Therefore, zebu bulls have been imported from the neighboring Brazilian states of Mato Grosso and quite recently acclimated Hereford and Poll bulls have been imported from Argentina.

The dairy business of Paraguay, with the exception of Asuncion, is as yet in a primitive condition and the customers in many villages being supplied direct from the cows driven from door to door. The milk consumed in Asuncion is supplied by a number of small producers. Until a few months ago deliveries of milk were made in jars or donkeys or on the heads of women in a varied assortment of tin and glass receptacles. Sanitary precautions were wholly neglected. There is now a modern dairy in Asuncion which receives milk from small dealers at central places. This dairy buys all the milk available in Paraguay and imports some from Argentina. Upon the arrival of the milk at the dairy it is purified and pasturized. Delivery is then made to the customers in sealed tins or bottles on two wheeled carts. The daily consumption of milk in Asuncion is about 6,000 liters, the population being about 75,000. The principal use of milk is as a beverage, very little being used in cooking and very little being made into cheese and butter. The milk supply of the country does not equal the demand. The imports from Argentina supplying the deficiency. Cheese and butter in considerable quantities are imported from Argentina and Uruguay. Condensed milk is imported to some extent but classed as "other canned articles."



Cattle:

Table \_\_\_\_\_. Number of cattle in Paraguay.  
 (Report 109, Dept. Agr. U.S.A. & No. Bul. Pan-Am. Union)

Year	Total cattle.
1890	861,954
1894	1,103,000
1897	1,774,000
1899*	2,223,000
1900	2,743,667
1901	3,500,000
1902	3,104,453
1908	3,500,000
1912	3,500,000
1915**	3,249,043
1917***	4,500,000

[\*] Census.

[\*\*] Paraguay Cattle Census Statistics. (No. Bul. Pan-Am. Union, Nov. 1916, p. 671.)

[\*\*\*] No. Bul. Pan-Am. Union, Feb. 1917.

"Prominent fluctuations appear in the record of cattle in this country, on account of droughts and cattle disease. According to imperfect estimates, Paraguay had 102,000 cattle in 1890, and 2,103,000 in 1894. The next year found a loss of 343,000 head. A census was taken in 1897 and 2,223,000 cattle were found. A marked increase has followed, with an estimate of 3,500,000 cattle in 1900. The latest(?) which is for 1912, places the number at only 3,500,000. Experience in cattle raising in Paraguay has so far been filled with uncertainties." (Rural Situation in the United States, Report 109, p. 31-32, U.S. Bureau.)

Note: Later figures are shown in the table above with the authority for the same and indicate a substantial increase in number of cattle in the country.

Received of the Treasurer of the United States the sum of \$100.00 for the year 1911.

Date	Amount
Jan 1	100.00
Feb 1	100.00
Mar 1	100.00
Apr 1	100.00
May 1	100.00
Jun 1	100.00
Total	600.00

Witness my hand and seal this 1st day of January 1911.

\_\_\_\_\_  
 Secretary

\_\_\_\_\_  
 Treasurer

The undersigned, Secretary of the United States, do hereby certify that the above is a true and correct copy of the original as the same appears in the records of the Department of the Interior.

\_\_\_\_\_  
 Secretary

The undersigned, Treasurer of the United States, do hereby certify that the above is a true and correct copy of the original as the same appears in the records of the Department of the Interior.

\_\_\_\_\_  
 Treasurer

# PARAGUAY.

## Imports and Exports:

Table \_\_\_\_\_. Imports and exports of cattle and milk products.  
(Official reports.)

Year.	Imports.			Exports.	
	Cattle.	Butter.	Cheese.	Cattle	(To butter or cheese)
1881	x	3,567	15,467	32,351	
1882	x	4,785	2,187	40,998	
1883	x	3,611	3,954	30,216	
1884	x	3,097	5,539	40,638	
1885	x	2,425	41,273	57,951	
1886	x	3,435	31,193	x	
1887	x	4,786	40,212	69,254	
1888	x	x	x	x	
1889	x	x	x	x	
1890	x	x	x	x	
1912	x	17,910	122,725	35,564	
1914	x	3,234	59,753	24,385	
1915	x	9,996	47,520	29,509	
1916	x				
1917	x				
1918	x				
1919					
1920					



Imports and Exports:

Table \_\_\_\_\_. Imports and exports of cattle and milk products. (Special! (Official reports.)

Year.	Imports.				Exports.			
	Cattle.	Butter.	Cheese.	Cond. Milk.	Cattle.	Butter.	Cheese	Cond. milk.
1906	x	591,748	745,275	1,528,504	(**)	10,335	15,753	(none)
1907	x	524,077	513,275	x	x	22,134	14,501	
1908	x	597,041	534,902	1,109,765	x	23,040	15,639	
1909	(*)	562,510	472,309	1,424,750	x	22,953	19,353	
1910	x	x	x	x	x	x	x	
1911	x	x	x	1,775,503	x	x	x	
1912	x	x	x	x	x	x	x	
1913	x	490,653	625,458	2,223,229	1,661	12,379	24,953	
1914	10	435,034	436,991	2,247,770	3,062	10,062	13,796	
1915	9	549	185	2,383	4,753	10,042	7,434	
1916								
1917								
1918								
1919								
1920								

(\*) Number not stated prior to 1914, but included under "live animals," or value only being given.

(\*\*) Number of cattle exported not given separately prior to 1913.

Importations:

TRADE WITH THE UNITED STATES

Table \_\_\_\_\_. Importations of milk products from the United States. (Department of Commerce reports, U.S.A.)

Year.	Butter.		Cheese.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	4,534	1,211	5,652	722	100,799	3,093
1912	1,637	551	5,167	832	200,395	15,061
1913	6,079	2,079	16,174	3,084	322,402	24,302
1914	9,715	2,927	6,456	1,157	526,347	39,345
1915	5,371	1,675	5,398	1,014	637,566	46,970
1916	50,936	14,655	5,754	2,013	964,159	79,214
1917						
1918						
1919						
1920						

[illegible][illegible]

DOMINICAN REPUBLIC.

Dairy Industry in the Dominican Republic.

(Letter from Sr. Francisco J. Poyade, Santo Domingo,  
Apr. 26, 1913, to Pan American Union)

"In reply to your letter of April 4, in which you ask me for data regarding the cattle industry in this country, I regret to have to tell you that it is impossible to furnish this, because no information of this kind is available here and there is no one who has any knowledge of the matter.

I spoke to the Director of Statistics in regard to it, and he told me that had no data whatever at present on the subject. "

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TO: [Name] [Address] [City] [State] [Zip]  
FROM: [Name] [Address] [City] [State] [Zip]  
SUBJECT: [Subject]  
RE: [Reference]

I am writing to you regarding the [Subject] [Reference]  
which was discussed at the [Meeting] [Date]

As you can see from the [Attachment] [Reference]  
the [Subject] [Reference] is [Description]

I am sure that you will find this [Information] [Reference]  
of interest and I am sure that you will find it [Useful]

I am sure that you will find this [Information] [Reference]  
of interest and I am sure that you will find it [Useful]

I am sure that you will find this [Information] [Reference]  
of interest and I am sure that you will find it [Useful]

I am sure that you will find this [Information] [Reference]  
of interest and I am sure that you will find it [Useful]

I am sure that you will find this [Information] [Reference]  
of interest and I am sure that you will find it [Useful]

I am sure that you will find this [Information] [Reference]  
of interest and I am sure that you will find it [Useful]

I am sure that you will find this [Information] [Reference]  
of interest and I am sure that you will find it [Useful]

Imports and Exports:

NOTE: The official reports on imports and exports do not give cattle separately but include them under "livestock." Dairy products were included under "Provisions," therefore, not found separately in the original official reports up to and including the year 1914.

TRADE WITH THE UNITED STATES.

Importations:

Table \_\_\_\_\_. Importations of dairy products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	B u t t e r.		C h e e s e.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	78,989	15,484	35,482	5,961	9,500	358
1912	69,121	11,938	45,678	8,455	20,412	1,829
1913	78,184	18,643	32,475	6,177	44,561	4,304
1914	43,589	9,775	21,916	4,148	23,353	2,289
1915	60,311	11,940	64,164	12,030	72,474	6,561
1916	58,254	10,665	27,225	13,682	71,945	6,773
1917						
1918						
1919						
1920						

The following table shows the results of the work done during the year 1911. The work was done in the following order: first, the work done in the field; second, the work done in the laboratory; and third, the work done in the office. The results of the work done in the field are given in the first column, the results of the work done in the laboratory in the second column, and the results of the work done in the office in the third column.

RESULTS OF THE WORK DONE DURING THE YEAR 1911

Field Work			Laboratory Work			Office Work		
No.	Locality	Altitude	No.	Locality	Altitude	No.	Locality	Altitude
1	1000	1000	1	1000	1000	1	1000	1000
2	1000	1000	2	1000	1000	2	1000	1000
3	1000	1000	3	1000	1000	3	1000	1000
4	1000	1000	4	1000	1000	4	1000	1000
5	1000	1000	5	1000	1000	5	1000	1000
6	1000	1000	6	1000	1000	6	1000	1000
7	1000	1000	7	1000	1000	7	1000	1000
8	1000	1000	8	1000	1000	8	1000	1000
9	1000	1000	9	1000	1000	9	1000	1000
10	1000	1000	10	1000	1000	10	1000	1000
11	1000	1000	11	1000	1000	11	1000	1000
12	1000	1000	12	1000	1000	12	1000	1000
13	1000	1000	13	1000	1000	13	1000	1000
14	1000	1000	14	1000	1000	14	1000	1000
15	1000	1000	15	1000	1000	15	1000	1000
16	1000	1000	16	1000	1000	16	1000	1000
17	1000	1000	17	1000	1000	17	1000	1000
18	1000	1000	18	1000	1000	18	1000	1000
19	1000	1000	19	1000	1000	19	1000	1000
20	1000	1000	20	1000	1000	20	1000	1000
21	1000	1000	21	1000	1000	21	1000	1000
22	1000	1000	22	1000	1000	22	1000	1000
23	1000	1000	23	1000	1000	23	1000	1000
24	1000	1000	24	1000	1000	24	1000	1000
25	1000	1000	25	1000	1000	25	1000	1000
26	1000	1000	26	1000	1000	26	1000	1000
27	1000	1000	27	1000	1000	27	1000	1000
28	1000	1000	28	1000	1000	28	1000	1000
29	1000	1000	29	1000	1000	29	1000	1000
30	1000	1000	30	1000	1000	30	1000	1000
31	1000	1000	31	1000	1000	31	1000	1000
32	1000	1000	32	1000	1000	32	1000	1000
33	1000	1000	33	1000	1000	33	1000	1000
34	1000	1000	34	1000	1000	34	1000	1000
35	1000	1000	35	1000	1000	35	1000	1000
36	1000	1000	36	1000	1000	36	1000	1000
37	1000	1000	37	1000	1000	37	1000	1000
38	1000	1000	38	1000	1000	38	1000	1000
39	1000	1000	39	1000	1000	39	1000	1000
40	1000	1000	40	1000	1000	40	1000	1000
41	1000	1000	41	1000	1000	41	1000	1000
42	1000	1000	42	1000	1000	42	1000	1000
43	1000	1000	43	1000	1000	43	1000	1000
44	1000	1000	44	1000	1000	44	1000	1000
45	1000	1000	45	1000	1000	45	1000	1000
46	1000	1000	46	1000	1000	46	1000	1000
47	1000	1000	47	1000	1000	47	1000	1000
48	1000	1000	48	1000	1000	48	1000	1000
49	1000	1000	49	1000	1000	49	1000	1000
50	1000	1000	50	1000	1000	50	1000	1000
51	1000	1000	51	1000	1000	51	1000	1000
52	1000	1000	52	1000	1000	52	1000	1000
53	1000	1000	53	1000	1000	53	1000	1000
54	1000	1000	54	1000	1000	54	1000	1000
55	1000	1000	55	1000	1000	55	1000	1000
56	1000	1000	56	1000	1000	56	1000	1000
57	1000	1000	57	1000	1000	57	1000	1000
58	1000	1000	58	1000	1000	58	1000	1000
59	1000	1000	59	1000	1000	59	1000	1000
60	1000	1000	60	1000	1000	60	1000	1000
61	1000	1000	61	1000	1000	61	1000	1000
62	1000	1000	62	1000	1000	62	1000	1000
63	1000	1000	63	1000	1000	63	1000	1000
64	1000	1000	64	1000	1000	64	1000	1000
65	1000	1000	65	1000	1000	65	1000	1000
66	1000	1000	66	1000	1000	66	1000	1000
67	1000	1000	67	1000	1000	67	1000	1000
68	1000	1000	68	1000	1000	68	1000	1000
69	1000	1000	69	1000	1000	69	1000	1000
70	1000	1000	70	1000	1000	70	1000	1000
71	1000	1000	71	1000	1000	71	1000	1000
72	1000	1000	72	1000	1000	72	1000	1000
73	1000	1000	73	1000	1000	73	1000	1000
74	1000	1000	74	1000	1000	74	1000	1000
75	1000	1000	75	1000	1000	75	1000	1000
76	1000	1000	76	1000	1000	76	1000	1000
77	1000	1000	77	1000	1000	77	1000	1000
78	1000	1000	78	1000	1000	78	1000	1000
79	1000	1000	79	1000	1000	79	1000	1000
80	1000	1000	80	1000	1000	80	1000	1000
81	1000	1000	81	1000	1000	81	1000	1000
82	1000	1000	82	1000	1000	82	1000	1000
83	1000	1000	83	1000	1000	83	1000	1000
84	1000	1000	84	1000	1000	84	1000	1000
85	1000	1000	85	1000	1000	85	1000	1000
86	1000	1000	86	1000	1000	86	1000	1000
87	1000	1000	87	1000	1000	87	1000	1000
88	1000	1000	88	1000	1000	88	1000	1000
89	1000	1000	89	1000	1000	89	1000	1000
90	1000	1000	90	1000	1000	90	1000	1000
91	1000	1000	91	1000	1000	91	1000	1000
92	1000	1000	92	1000	1000	92	1000	1000
93	1000	1000	93	1000	1000	93	1000	1000
94	1000	1000	94	1000	1000	94	1000	1000
95	1000	1000	95	1000	1000	95	1000	1000
96	1000	1000	96	1000	1000	96	1000	1000
97	1000	1000	97	1000	1000	97	1000	1000
98	1000	1000	98	1000	1000	98	1000	1000
99	1000	1000	99	1000	1000	99	1000	1000
100	1000	1000	100	1000	1000	100	1000	1000

Cattle:

Number of cattle, 1906, - - - - 284,013 (Mo.Bul.Pan-Amér.Union.)

Production: Monthly Bulletin of Pan-American Union, 1910, p-550, reports the production of cheese for half-year at 35,699 quintals, (7,914,293 lbs.) for the year 1906.

Imports and Exports:

Table \_\_\_\_\_. Imports and exports of milk products. (Special)  
(Official reports)

Year.	I m p o r t s.		E x p o r t s.	
	Butter.	Cheese.	Butter.	Cheese.
1904		421*	245*	x
1905	x	x	x	x
1906	x	x	x	x
1912		228,751	x	x
1915		2,198	x	x
1914	x	x	x	x
1915	7,843	129,190	x	x
1916				
1917				
1918				
1919				
1920				

(\*) First three months of year only.

Note: The export in 1904 was to the United States only.

TRADE WITH THE UNITED STATES.

Importations:

Table \_\_\_\_\_. Importations of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	B u t t e r.		C h e e s e.		C o n d e n s e d m i l k.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
1911	2,521	911	605	112	46	4
1912	1,759	682	1,011	210	315	27
1913	1,794	702	942	166	357	29
1914	2,032	737	1,093	231	315	31
1915	2,658	729	676	133	1,048	95
1916	5,533	1,928	5,256	1,188	6,720	543
1917						
1918						
1919						
1920						



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U R U G U A Y

CATTLE:

Present State of Cattle Breeding in Uruguay.

by

Teodoro and Juan Angel Alvarez.

(Monthly Bulletin of Agricultural Intelligence and  
Plant Distribution, May, 1914) p-607.

Historical. Up to the end of the sixteenth century there were no domestic animals in Uruguay. The natives lived exclusively by hunting, fishing and utilizing the natural products of the soil. The first Spanish colonies founded along the banks of the Uruguay had only a brief existence. In 1603 the Governor, Hernandaria de Saavedra, caused a hundred head of cattle to be imported from Argentine together with two droves of mares and placed them in a locality provided with good pastures and plenty of water, where, together with other animals subsequently imported, they were allowed full liberty and multiplied to an extraordinary extent. In adapting themselves to their new kind of life and environment they modified the characters of the original Spanish cattle which the conquerors had introduced into the new continent and formed the local or "criolla" breed.

In 1624 the nucleus of San Domingo de Soriana was founded on the coast of Uruguay it soon attracted a current of immigration from Buenos Aires for the purpose of hunting the wild cattle and the trade in their hides. The beef had no market value while the skins fetched 0.80 pesos (80%) each and were sent to Buenos Aires or to Spain. In 1680 another settlement was founded. La Colonia, and the trade in hides increased. This state of things continued until the invasion of the Portuguese in 17<sup>23</sup> when Montevideo was founded. Among the privileges granted to the settlers the following were included: a plot of land of 25 x 50 "veras" (70 x 140 feet) upon which to build a house, a field of 10 "cuadras" (18.22 acres) and a ranch of 1 "smerte de campo" equal to 4,940 acres, besides which, each "estanciero" was given 200 head of cattle and 100 sheep. As the law did not prohibit the accumulation of land, which

in of Agricultural Intelligence and  
in Angel Alvarez.

Up to the end of the sixteenth century there were no domestic animals in Uruguay. The natives lived exclusively by hunting, fishing and utilizing the natural products of the soil. The first Spanish colonies founded along the banks of the Uruguay had only a brief existence. In 1603 the Governor, Horrendaris de Senevra, caused a hundred head of cattle to be imported from Argentina together with two groves of wheat and placed them in a locality provided with good pastures and plenty of water, where, together with other animals subsequently imported, they were allowed full liberty and multiplied to an extraordinary extent. In adapting themselves to their new kind of life and environment they modified the characters of the original Spanish cattle which the conquerors had introduced into the new continent and formed the local or "criolla" breed.

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## U R U G U A Y.

### CATTLE:

could be bought very cheaply, some enormous estates were formed, and even now there are some estates which include 10 "smertes de campo", (49,400 acres) entirely devoted to the breeding and fattening of cattle. In 1670 a decree of Don Joaquin de Viana, governor of Montevideo, forbade the great butcheries of cattle and allowed only bulls and oxen over 5 years of age and the male calves to be killed for butcher's meat. This law favored the rapid multiplication of cattle which soon stocked the ranches of private owners, of the Jesuits and of the Crown, Francisco Bauzá in his history mentions two royal "estancias", one 130,977 and the other 313,480 acres in extent. The Jesuits possessed 370,500 acres.

In 1754 was founded the first "saladero" (an establishment for the salting and drying of meat) but it met with poor success. In 1796 Don Francisco de Medina bought the "estancia real de Colla" and erected on it a large "saladero" for the utilization of all the principal products of the slaughter house such as hides, flesh, tallow, etc. As many as 1,000 head of cattle a day were slaughtered. Laws were passed for the protection of the new industry and "tasaajo" or "jerked" beef began to be exported to Cuba and to Porto Rico. The animals which could be bought for 0.30 peso (30¢) when Montevideo was founded fetched five times as much after the erection of Medina's "saladero". At the beginning of the nineteenth century there were more than half-a-dozen "saladeros." The progress of the industry was suspended during the civil wars, but was continued afterwards and much improved.

Improvement of cattle. The improvement of the "criollo" cattle began in 1860 with the importation of Durham bulls. Later this breed was used for breeding by itself, as well as for crossing with the local breed. It is much esteemed in Uruguay as it preserves its character very well, and produces crosses which attain weights of 1,100 and 1,320 lbs. When fattened on the pastures, Their meat fetches as much as 4.2 cents per lb. live weight.

...the ... of the Crown, Francisco Barba, in his history mentions two royal "estancias" ... me 180,977 and the other 218,480 acres in extent. The Jesuits possessed

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# U R U G U A Y

## CATTLE:

The importation of Herefords began in 1864. They are bred on the same system as the Durham to which they are preferred by many breeders, especially in the North of the Republic, because they are more suitable for the open country.

The Devon breed was introduced in the district of Paysandú in 1874, and it has not spread much, but has found a good market in the South of Brazil where it is imported to improve the native breed. Neither has the Polled Angus breed spread much, (in the district of Salto) notwithstanding the fact that it has become perfectly acclimatized and yields excellent meat. As the lasso is still used for handling the cattle, the lack of horns perhaps accounts for its limited distribution in Uruguay. The following breeds have also been imported: Polled Durham (in Paysandú); Ayrshire; Simmenthal (at Pirapolis); Jersey (at Toledo in 1887 where it is bred pure for the production of milk); Dutch (in the district of Canelones) already fairly wide spread in the country; Red Flemish (in 1910); Black spotted Flemish (imported from Argentina in 1912). But of all the milk breeds the most widely spread is the "criollo", common in the whole of Uruguay. It has a lactation period lasting five or six months and yields about 1.32 gallons of milk per day. (See Table 1 for number of livestock in Uruguay)

The rapid rise in the number of cattle in Uruguay is not due merely to the multiplication of the "criollo" breed but to crosses between this breed and the imported breeds. In 1887 the "Association Rural del Uruguay" founded the Herd-book in which from that time up to 1913 the following have been entered:

	Head.		Head.
Hereford- - - - -	9,000	Dexter- - - - -	15
Shorthorn - - - - -	4,900	Simmenthal- - - - -	23
Lincolnshire, - - - - -	18	Schwyz- - - - -	7
(red shorthorn.)		Flemish, spotted, - - - - -	7
Devon - - - - -	134	" brown, - - - - -	7
Polled Angus- - - - -	226	Jersey- - - - -	68
Red polled- - - - -	54	Norman- - - - -	183

They are bred on the same

they are preferred by many breeders, especially

where it is imported to improve the native breed. Neither has the Friesian

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Jersey (at Toledo in 1927 where it is bred pure for the production of milk);

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and yields about 1.33 gallons of milk per day. (See Table I for number of

the milk yield is the same in 1912-13 as in 1911-12, but in 1910-11 it was

the milk yield was 1.33 gallons per day, and in 1912-13 it was 1.33 gallons per day

and the milk yield was 1.33 gallons per day, and in 1912-13 it was 1.33 gallons per day

the milk yield is 1.33 gallons per day, and in 1912-13 it was 1.33 gallons per day

1931	2,000	Hereford
1930	1,800	Shorthorn
1929	1,600	Black Friesian
1928	1,400	Jersey
1927	1,200	Red Friesian
1926	1,000	Black spotted Friesian
1925	800	Jersey
1924	600	Black Friesian
1923	400	Jersey
1922	200	Black Friesian
1921	100	Jersey

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To these numbers should be added that of the grade animals amounting to 157,859 head (1.93 per cent); that of the cross-breeds which amounts to 5,204,489 head (65.53 per cent); that of the "criollos", or 2,690,788 head (32.84 per cent) and that of the unspecified cattle or 129,466 head (1.70 per cent.).

In Uruguay there are 19,745 farms devoted exclusively to the raising of livestock, 18,602 purely arable and 5,527 of a mixed character.

Formerly all the animals ranged freely on the pastures, the limits between the various estates being marked only by a few boundary stones. The herdsmen ("peones de campo") mounted on horseback, used to ride round and round the cattle for several days and nights until the animals had grown accustomed to sleeping in one particular place called a "rodeo". <sup>It was there</sup> ~~at the rodeo~~ there too that the animals were collected when required, and when a rounding up had been called, the herdsmen ("la peonada") went out into the open pastures with a few trained dogs; they emitted special cries at the sound of which the cattle gathered in the "rodeo". Later the properties began to be surrounded by walls; in 1875 wire fencing was introduced by law; the enclosures were made with five strands of wires fastened to hard wood posts ("mandubay") placed 20 meters (65 ft) apart with five intermediate pine supports. After this the fenced or walled estates were subdivided into pastures, partly for the purpose of keeping the several kinds and breeds of animals apart. The improvement of the cattle led to greater care being taken of the animals. The owners increased the number of wires around the enclosures to prevent their stock from mingling with that of their neighbors. They are obliged now to brand their cattle and horses, and to mark their sheep, goats and pigs.

In 1877, with the assistance of the State, livestock shows and fairs began to be held, at first at intervals of a few years, then every year in some districts. At present they are very well organized over the greater part of Uruguay. The State contributes subsidies voted by the legislature

and that of the unclassified cattle or 139,466 head (1.70 per cent.).

In Uruguay there are 19,745 farms devoted exclusively to the raising of livestock, 18,608 purely arable and 5,537 of a mixed character.

Between the various estates being marked only by a few boundary stones. The

herdsmen ("peones de campo") mounted on horseback, used to ride round and

round the cattle for several days and nights until the animals had grown

accustomed to the sound of the whistle and called a "peón de campo".

For the first time the animals were registered, and then a census was

made and the results of the census were sent to the Government.

After a few days the animals were again counted, and the results were sent

to the Government. The results of the census were then compared with the

results of the first census, and the difference was found to be

very small. The results of the census were then compared with the

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CATTLE:

body and divided among the various districts and societies; other prizes are offered by private persons. In 1895, together with the third national live-stock show, the first rural congress was held.

Markets. As has already been mentioned, for 150 years (the so-called "hide period") the sole product of the <sup>the</sup>Uruguay animal husbandry consisted in hides. In 1780 the salt meat industry began with the exportation of "tasajo" or jerked beef to Porto Rico and Cuba which are still the chief consumers. This industry increased the price of cattle five fold in about ten years, from 1.50 pesos (\$1.53) in 1777 to 8 or 9 pesos (\$8.16 to \$9.18) in 1790, and caused a strong current of emigration from the towns to the country; since then animal husbandry has become the chief source of national wealth. Whilst the cattle was being domesticated and selected, the technique of the salt meat industry was also being improved with regard to the utilization of the main and of the by-products, and, by yielding higher profits, allowed better prices to be paid for the cattle thus further stimulating their multiplication and improvement.

Together with the salt meat industry other industries arose. In 1885 the great meat extract factory belonging to Liebig's Extract of Meat Co. Ltd. (capital \$2,500,000) was erected. At present the salting of meat is still carried on extensively, nevertheless it is gradually being replaced by other methods of turning the raw material to account, as may be seen from the following figures:

Value of products other than "tasajo."

Year.	Pesos.	Dollars. (U.S.)
1901	1,860,000	1,897,200
1905	3,022,000	3,082,440
1908	3,798,000	3,871,920

Considering the great development taken by the cold storage industry in Uruguay (it deals at present with about 400,000 head of cattle and 800,000 sheep) and the high ~~customs~~ duties on jerked beef in Cuba and in Brazil (exportation



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to the latter country has diminished by 2,000,000 pesos (\$3,697,500) per annum. it is easy to foresee that before long the jerked beef industry will be very considerably reduced or will disappear altogether. While the output of the Uruguay "saladeros" diminishes continually, that of the Brazil "saladeros" is always progressing, as the following figures show:

Number of head of cattle killed in the "saladeros."

Year.	Uruguay.	Brazil.
1908	467,000 ✓	597,000 ✓
1909	544,000 ✓	660,000 ✓
1910	576,000 ✓	503,000 ✓
1911	446,600 ✓	707,000 ✓
1912	435,600 ✓	902,000

(1911-1914)

There are at present/in Uruguay 16 "saladeros" 5 preserved meat factories and 2 cold storage establishments.

In 1904 the first cold storage works were erected in Uruguay with capital raised in the country itself. They can deal with 400 head of cattle and 4,000 sheep daily. In 1904-5, that is, in its first year, 4,302 head of cattle and 102,432 sheep were slaughtered. Last year 30,000 of the former and 300,000 of the the latter were dealt with. In 1912 a second cold storage establishment capable of dealing with 700 head of cattle and 2,500 sheep per day began to work. A third is being built by a North American company with a capital of \$4,000,000.

The value of the animal products exported from Uruguay during the five years 1903-1907 amounted to about 160,000,000 pesos ( <sup>164,000,000</sup> ~~136,300,000~~ ).

Institutions for the promotion of animal husbandry. Two of these may be mentioned "Inspeccion de ganaderia y agricultura" (Inspection of Animal Husbandry and Agriculture) and the "Inspeccion sanitaria animal."

A Model Dairy is annexed to the Agricultural School for teaching dairying. It is located in Estanzuela (Dept. of Colonia) and has an excellent herd of milk cows and all the necessary machinery for proper dairy work.

to the latter country has diminished by 3,000,000 heads (45,697,500) per year  
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 Uruguay "saladeros" diminishes continually. That of the Brazil "saladeros" is

Number of head of cattle killed in the "saladeros"

Year	Number of head of cattle killed
1908	467,000
1909	544,000
1910	526,000
1911	446,800
1912	433,000
1913	502,000
1914	507,000
1915	660,000
1916	897,000

(1914)  
 and 2 cold storage establishments  
 raised in the country itself. They can deal with 400 head of cattle and 4,000  
 sheep daily. In 1904-5, that is, in its first year, 4,300 head of cattle and  
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 1,000,000 of the latter were killed. The plant is owned by the Government  
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The value of the animal products exported from Uruguay during the five  
 years 1905-1909 was about 100,000,000 pesos (10,000,000 dollars).  
Two of these were animal products.  
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 years 1905-1909 was about 100,000,000 pesos (10,000,000 dollars).

A Model Dairy is annexed to the Agricultural School for teaching dairymen  
 It is located in Estanque (Dept. of Colonia) and has an excellent herd of  
 milk cows and all the necessary machinery for proper dairy work.

# U R U G U A Y.

## DAIRYING:

(Inter.Rev.of the Sci.& Prac.of Agric.  
No.5,Year.VII,p-629,May,1916.)

### DAIRYING IN URUGUAY.

By Arturo Abella,

(Dept. of Agricultural Information, Montevideo)

In Uruguay, milk is produced on farms of varying area, either as a part of the ordinary farm routine with dairy cattle, or by more specialized methods the practice of which is confined to certain regions, particularly those near markets. Owing to the local methods of production employed, it is difficult to determine the milk yield in Uruguay. It might, however, be ascertained approximately from the number of dairy cattle existing in the country.

Pending the publication of the "Censo Agropecuario" (Zootechnical and Agricultural Census) which is now being prepared, the only available information is that of the "Censo General de la Republica", for 1908, and which is summarised in Table 1. (see page \_\_\_\_)

According to the General Census of 1908, the total number of cattle is made up as follows:

Pure bred cattle . . . . .	10,775
Cross bred cattle. . . . .	289,103
Native cattle. . . . .	205,385
Not classified . . . . .	60,591
Total . . . . .	565,854

In reality there is a larger number of pure-bred dairy cattle, besides animals improved by crossing, as will be shown by the Agricultural Census now being carried out.

Milk Consumption in Relation to the Population. The Agricultural department of the "Inspeccion Nacional de Ganaderia y Agricultura" has conducted an inquiry on this subject by means of question-papers sent to the municipalities of 19 departments, and has obtained for the years 1914 and 1915 data regarding the chief towns and places of importance, but not the rural districts, for which it is impossible to calculate the amount of milk consumed with accuracy.

According to data furnished by the municipal Laboratory of Montevideo, the average daily consumption of milk in that town is 120,000 l (228,874 pints) sold by 172 dairies, 105 milk-shops and 73 milk distributors.



DAIRYING:

(The consumption of milk per person, as shown by the same data, in 18 departments was from .2 to .4 pints per day, while the highest was 1.18 pints as against .10 of a pint for the lowest consumption for any locality.)

For the other parts of Uruguay, the figures giving the daily consumption of milk are only approximate, and the difference between summer and winter consumption has been taken into account as much as possible. This difference which varies according to locality, fluctuates between 10 and 40% and is due to a larger yield in summer than in winter and to the corresponding variation in prices, which are higher in winter than in summer. \* \* \* \*

At Montevideo the price of milk varies between 0.05 and 0.12 peso (2.84¢ and 6.8¢ per pint); the average price may be considered as 0.08 peso (4.74¢) <sup>4.85¢</sup> <sub>4.74¢</sub>

BUTTER AND CHEESE MAKING: For the present this branch is limited to the native demand. Besides the establishments which specialize in this industry, it is also carried on in a great number of "estancias agropecuarias" (mixed farms) where milch cows are kept. These "estancias" make a certain quantity of butter and cheese, partly for home use, and partly for selling at wholesale prices to the retailers. In these farms, breeding is carried on as well as dairying. Some farms have specialized in the breeding and improvement of dairy-cattle, their chief business being milk production.

In the department of Colonia the milk industry is more extensively developed, there being many places with foreign settlers (e.g. Swiss) where flourishing dairy-farms have been established, amongst which are some important "lecherias" and "cremerias."

The most important places for cheese-making are the departments of Maldonado, Colonia, Tacuarembó and Rocha. The establishments whose chief enterprise is the sale of milk, and who only make small amounts of butter, are mostly in the district round about Montevideo, in consequence, as we have remarked above,



## URUGUAY.

### DAIRYING:

of the important market provided by this capital. This region includes several localities situated in the departments of Canelones, San José and in the southern part of the department of Florida. The departments of Soriano and Paysandú may also be added to this category.

As it is impossible to give the exact figures the data relative to butter and cheese making in the whole of Uruguay, owing to the manner in which its dairy industry is conducted, we will merely quote the department of Colonia as the most important example from this point of view.

The following figures relating to the department of Colonia are taken from detailed information given by the "Intendente Municipal" (Mayor):

Milk-dairies . . . . .	30
Milk-dairies - butter-dairies -cheese-dairies. . . . .	498
	-----
Total in department . . . . .	522

#### Approximate quantities of milk used daily for:

Cheese-making . . . . .	123,186 pints
Butter-making . . . . .	211,176 "
	-----
Total . . . . .	334,362 pints.

### INFORMATION ON THE PRINCIPAL DAIRY PRODUCTS:

The favorable conditions for the production of milk and other dairy products in Uruguay, and the fact that owing to its numerous improved and even pure-bred milch cows it is essentially a breeding country, make it possible to foresee that more extensive breeding and growth of forage crops will result in a greater production of milk, and a consequent increase in the amount of butter and cheese available for exportation to the markets of America and Europe. As yet, however, Uruguay is obliged to import these dairy products, as is shown in tables \_\_\_\_\_ page \_\_\_\_\_.

The amount imported is relatively small, and as Prof. Demolin says in his book "Lecheria y Cremeria": The importation of condensed milk is admissible in a completely new country, as it forms a substitute for fresh milk. For this

[illegible]

As it is impossible to give the exact figures the data relative to but

The following figures relating to the department of Colonia are taken from detailed information given by the "Intendente Municipal" (Mayor):

additions for the production of milk and other dairy

and the fact that owing to its numerous improved and

which cows it is essentially a breeding country, make it pos-

DAIRYING:

"reason, we believe that the descending curve of importation will correspond to the ascending curve of native milk production. We should soon reach the day when condensed milk will solely be used by ships sailing on the water ways in the interior of the country, and then, only when it is impossible to obtain fresh milk."

As is shown by the figures in Table \_\_\_\_\_, the amount of butter imported is not large.

On the other hand, the amount of cream imported from Argentina is important and reaches a value of over 40,000 pesos (<sup>37,000</sup> \$40,000.) since 1911, however, the importation of cream has much decreased. In many cases, the importation did not correspond to the real demand, but resulted from the possibility of obtaining the cream at a low price during the period of high production in the neighboring Country, thus allowing it to compete with the native product. The Customs law in Uruguay allows for this need of the native product and has established protective entrance duties which will be considered later.

Cheese forms the largest import amongst dairy-products; but it must be remembered that cheese is sold in various kinds and forms and in various categories, with special characteristics according to the countries of origin. The cheeses imported are generally those selling at high prices. The cheeses manufactured in the country are sufficient for a large part of the demand and are being continually improved. Some good types are produced in the departments of Colonia and Maldonado, and it is quite probable that the Uruguay cheeses will one day be exported in appreciable quantities. In 1914, 252 cwt of cheese was exported, representing a value of 2,844 pesos (<sup>3,728</sup> \$5,954).

The imports for 1911 are given in Table \_\_\_\_\_, page \_\_\_\_\_, and

To complete the data as to the price of milk in the different departments of Uruguay, we would add that: The actual price of new cheese per kilo (2.2 lbs) varies between 0.23 and 0.40 peso (<sup>2.34 - 3.48</sup> 12¢ and 19¢ per lb.) according to the category.

Cream is valued at 0.70 peso per kg. of fatty matter (32¢ per lb.)

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (C) and the experimental group (E). The control group (C) was divided into two subgroups: the control group (C) and the control group (C). The experimental group (E) was divided into two subgroups: the experimental group (E) and the experimental group (E).

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### DAIRYING:

Butter is sold wholesale at 0.75 peso per kg. (36¢ per lb).

### LEGISLATIVE MEASURES:

In all the departments municipal regulations exist for the sale of milk, and which control amongst other points the following:

1. Purity of the milk.
2. Prohibition of the sale of skimmed or watered milk.
3. Regulation of carriage.
4. Condition of vessels.
5. Hygienic conditions of sale - Localities - Vessels, etc.
6. Register of milk-vendors deposited in the Municipal Laboratories.
7. Inspection of "lecherias", "tambos", and "despechos."
8. Penalties.
9. Additional penalties.

The "tambos" are subject to the regulations concerning disinfection and the cleanliness of the cattle established by the Law on the Inspection of Cattle. The Seccion Tambos y Lecherias de la Oficina de Police Sanitaria Animal" is responsible for the application of these regulations, in accordance with the corresponding regulations which deal with the following questions concerning the hygiené of the dairy business:

1. Dimensions and hygienic construction of shippens; imperviousness of building material and conditions of drainage.
2. Removal of manure and the state of the dung-hill.
3. Hay barns.
4. Cleanliness of workman (prohibiting the employment of persons infected with contagious diseases, or having wounds of an infectious nature on the hands.)
5. Notification of disease or of the appearance of symptoms indicating disease, especially udder troubles. Notification of causes of death among the cows, in order that a veterinarian examination may be made and suitable measures applied.
6. Measures to be applied in the case of infectious diseases closing of the establishment, disinfection of localities and application of the measures enforced by the Police in charge of sanitation.
7. Cleanliness etc. of cows' food (water and forage), of milking and of the preservation of milk.
8. Penalties.

Similar Regulations are applicable to all establishments where milk and its products are sold and made; as, for instance, forbidding the sale: 1. of colostrum and of milk that is stringy, spoilt, bitter, sour, soiled, etc. 2. of milk originating either from unhealthy cows, or from cows fed on spoilt or harmful foods, or such as to communicate as bad taste or foul smell to the milk; or finally from cows treated with toxic substances whose action is general.

Milk, butter, cheese and other dairy products must come from establishments subject to sanitary control.

Other regulations concern: the standards to which the milk, cream and cheese sold must conform; the hygienic condition of milk and its products, for instance, it is forbidden to introduce the milk from one department into another without a permit declaring that it originates from cows that have been given the tuberculin test by the official veterinary surgeon.



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### DAIRYING:

The tuberculin test is subject to a special regulation of which the 1st article is as follows:

"All animals (cows, asses, goats, etc.) belonging to "tambores", "lecherias," or to private persons who keep the milk for their own use, must be inspected and undergo the tuberculin test by the "Inspeccion de Policia sanitaria animal"; which will give a sanitary certificate or show in the way it judges best, that these operations have been carried out."

"The tuberculin test will be applied to all potent males, and other kinds of animals susceptible to the disease, (kept by establishments, or persons, owning dairy cattle.)"

"The owners who do not apply these regulations are liable to a fine of 10 pesos (\$10.00) or to an equivalent imprisonment; the penalty will be doubled in the case of a second offence."

"In case of resistance from the proprietors the tuberculin test will be carried out forcibly, without prejudice to the aforesaid penalties. To this end, the officials of the Sanitary Police, aided by the Public Police, after having, if necessary, forced an entrance into the property of the resisting owner, will take possession of the animals, giving the proprietor a proper receipt for them, will perform the tuberculin test, and then return them to the owner."

### COOPERATIVE MOVEMENT:

Cooperative societies as yet do not play an appreciable part in regard to milk production, or the sale of dairy products; up to the present, one society alone has been founded, which we mention as an experiment in this line of cooperation. Speaking generally the cooperative movement has only recently begun in Uruguay but it is favorably received, the many advantages of cooperation being fully realized.

In conclusion we express the hope that the dairy industry in our country will give a new impulse to the cooperative movement.

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CATTLE:

"This very promising cattle country had 8,200,000 head of cattle in 1908, according to the census of October 12. Eight years before 1908 the census found 6,800,000 cattle, and the official estimate for 1893 placed the number at 5,500,000. There has been a steady increase of cattle in this country at a strong rate. Many cattle have been sent to Argentina for slaughter, but slaughtering with refrigeration of beef for export has begun in Uruguay, and the industry expects a continuation of expansion for an indefinite time. In 1908 the number of cattle was more than one-quarter as many as in Argentina, and the supposition is that the number has considerably increased since that year, while Argentina's number has remained stationary.

According to the census of 1908, there were 566,000 dairy cows in Uruguay, 3,778,000 other cows and heifers, and 3,849,000 other cattle."

(From Meat Situation in the United States, Report 109, p-33, G.K. Holmes)

The 1916 figures show that there were 7,003,042 head of cattle in the country and of these there were 513,196 head of dairy cows.

CATTLE IN URUGUAY, 1916

Showing the production of beef and mutton

and the number of head of cattle in the country

	1916	1915	1914	1913	1912	1911	1910
Head of cattle	7,003,042	6,800,000	6,500,000	6,200,000	5,900,000	5,600,000	5,300,000
Dairy cows	513,196	480,000	450,000	420,000	390,000	360,000	330,000
Other cows and heifers	3,778,000	3,600,000	3,400,000	3,200,000	3,000,000	2,800,000	2,600,000
Other cattle	3,849,000	3,700,000	3,500,000	3,300,000	3,100,000	2,900,000	2,700,000
Total	7,003,042	6,800,000	6,500,000	6,200,000	5,900,000	5,600,000	5,300,000



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## CATTLE:

Table \_\_\_\_ Number of cattle and dairy cows in Uruguay.  
(Various sources)

Year.	Total cattle.	Dairy cows.
1852	1,888,622	
1860	3,632,203	
1886	6,254,490	
1893	5,496,975	
1894	5,405,272	
1895	5,247,871	
1896	5,884,402	
1897	4,963,151	
1898	4,926,629	
1899	5,219,037	
1900*	(6,827,428)	
1900	6,430,564	
1901	6,326,601	
1902	7,029,078	
1903	6,947,936	
1904	7,304,607	
1905	6,028,980	
1908*+	(8,192,602)	565,854
1916	7,803,042	513,196

(\*) Census, including Montevideo

(+) Census, Oct. 12.

Table \_\_\_\_ Kinds of cattle in Uruguay.  
(Report 109, Dept. of Agric. U.S.A. p-208)  
"Meat Situation in the United States"

(1908 Census)

Breed.	Total cattle	Dairy cows.	Other cows.	Young bulls.	Young bullocks.	Calves.	Oxen.
----- cows -----							
Purebreds	157,859	10,775	78,774	18,102	12,343	36,448	1,417
Grades	5,204,489	289,103	2,375,107	86,314	965,044	1,389,207	99,714
Natives	2,690,788	205,385	1,323,746	49,832	342,411	594,010	175,404
Not specified.	139,466	60,591	x	3,794	x,	50,340	24,741
-----							
Total	8,192,602	565,854	7,777,627	158,042	1,319,798	2,070,005	301,276

Table 1. Number of cattle and dairy cows in Uruguay.  
(Various sources)

Year	Total cattle	Dairy cows
1900	1,400,000	1,400,000
1901	1,400,000	1,400,000
1902	1,400,000	1,400,000
1903	1,400,000	1,400,000
1904	1,400,000	1,400,000
1905	1,400,000	1,400,000
1906	1,400,000	1,400,000
1907	1,400,000	1,400,000
1908	1,400,000	1,400,000
1909	1,400,000	1,400,000
1910	1,400,000	1,400,000
1911	1,400,000	1,400,000
1912	1,400,000	1,400,000
1913	1,400,000	1,400,000
1914	1,400,000	1,400,000
1915	1,400,000	1,400,000
1916	1,400,000	1,400,000
1917	1,400,000	1,400,000
1918	1,400,000	1,400,000
1919	1,400,000	1,400,000
1920	1,400,000	1,400,000
1921	1,400,000	1,400,000
1922	1,400,000	1,400,000
1923	1,400,000	1,400,000
1924	1,400,000	1,400,000
1925	1,400,000	1,400,000
1926	1,400,000	1,400,000
1927	1,400,000	1,400,000
1928	1,400,000	1,400,000
1929	1,400,000	1,400,000
1930	1,400,000	1,400,000

(\*) Cattle, including Montevideo

(+) Cattle, 304.12.

Table 2. Number of cattle in Uruguay.  
(Report 109, Dept. of Agric. U.S.A. p. 203)  
Best situation in the United States

Year	Total cattle	Dairy cows	Other cattle	Calves	Oxen
1900	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1901	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1902	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1903	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1904	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1905	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1906	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1907	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1908	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1909	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1910	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1911	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1912	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1913	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1914	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1915	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1916	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1917	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1918	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1919	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1920	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1921	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1922	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1923	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1924	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1925	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1926	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1927	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1928	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1929	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
1930	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000

# U R U G U A Y.

## CATTLE.

Table \_\_\_\_\_. Number of dairy cattle in the various departments of Uruguay. (Arturo Abella, Inter.Natl.Rev. of the Sci.&Prac.of Agr.p-629,May,1916)

Departments.	Cattle.	Departments.	Cattle.
Artigas - - - - -	21,735	Paysandu- - - - -	22,132
Canelones - - - - -	39,372	Rio Negro - - - - -	14,589
Cerro Largo - - - - -	39,981	Rivera- - - - -	29,257
Colonia - - - - -	42,876	Rocha - - - - -	33,097
Durazno - - - - -	29,186	Salto - - - - -	32,427
Flores- - - - -	10,126	San José- - - - -	29,284
Florida - - - - -	40,110	Soriano - - - - -	19,201
Maldonado - - - - -	21,880	Tacuarembó- - - - -	43,213
Minas - - - - -	38,586	Treinta y Tres- - - - -	43,127
Montevideo- - - - -	15,675		
		Total- - - - -	565,854

TABLE 1. Summary of the results of the survey of the distribution of the various species of the genus *Phrynosoma* in the state of Sonora, Mexico, during the years 1934-1935. The data are given in terms of the number of specimens collected, the number of localities where they were found, and the number of individuals of each sex.

Species	Number of specimens	Number of localities	Number of individuals of each sex
<i>Phrynosoma macleayi</i>	100	10	50 males, 50 females
<i>Phrynosoma hernandesi</i>	150	15	75 males, 75 females
<i>Phrynosoma blainvillii</i>	200	20	100 males, 100 females
<i>Phrynosoma hernandesi</i>	250	25	125 males, 125 females
<i>Phrynosoma macleayi</i>	300	30	150 males, 150 females
<i>Phrynosoma hernandesi</i>	350	35	175 males, 175 females
<i>Phrynosoma blainvillii</i>	400	40	200 males, 200 females
<i>Phrynosoma hernandesi</i>	450	45	225 males, 225 females
<i>Phrynosoma macleayi</i>	500	50	250 males, 250 females
<i>Phrynosoma hernandesi</i>	550	55	275 males, 275 females
<i>Phrynosoma blainvillii</i>	600	60	300 males, 300 females
<i>Phrynosoma hernandesi</i>	650	65	325 males, 325 females
<i>Phrynosoma macleayi</i>	700	70	350 males, 350 females
<i>Phrynosoma hernandesi</i>	750	75	375 males, 375 females
<i>Phrynosoma blainvillii</i>	800	80	400 males, 400 females
<i>Phrynosoma hernandesi</i>	850	85	425 males, 425 females
<i>Phrynosoma macleayi</i>	900	90	450 males, 450 females
<i>Phrynosoma hernandesi</i>	950	95	475 males, 475 females
<i>Phrynosoma blainvillii</i>	1000	100	500 males, 500 females
<i>Phrynosoma hernandesi</i>	1050	105	525 males, 525 females
<i>Phrynosoma macleayi</i>	1100	110	550 males, 550 females
<i>Phrynosoma hernandesi</i>	1150	115	575 males, 575 females
<i>Phrynosoma blainvillii</i>	1200	120	600 males, 600 females
<i>Phrynosoma hernandesi</i>	1250	125	625 males, 625 females
<i>Phrynosoma macleayi</i>	1300	130	650 males, 650 females
<i>Phrynosoma hernandesi</i>	1350	135	675 males, 675 females
<i>Phrynosoma blainvillii</i>	1400	140	700 males, 700 females
<i>Phrynosoma hernandesi</i>	1450	145	725 males, 725 females
<i>Phrynosoma macleayi</i>	1500	150	750 males, 750 females
<i>Phrynosoma hernandesi</i>	1550	155	775 males, 775 females
<i>Phrynosoma blainvillii</i>	1600	160	800 males, 800 females
<i>Phrynosoma hernandesi</i>	1650	165	825 males, 825 females
<i>Phrynosoma macleayi</i>	1700	170	850 males, 850 females
<i>Phrynosoma hernandesi</i>	1750	175	875 males, 875 females
<i>Phrynosoma blainvillii</i>	1800	180	900 males, 900 females
<i>Phrynosoma hernandesi</i>	1850	185	925 males, 925 females
<i>Phrynosoma macleayi</i>	1900	190	950 males, 950 females
<i>Phrynosoma hernandesi</i>	1950	195	975 males, 975 females
<i>Phrynosoma blainvillii</i>	2000	200	1000 males, 1000 females
<i>Phrynosoma hernandesi</i>	2050	205	1025 males, 1025 females
<i>Phrynosoma macleayi</i>	2100	210	1050 males, 1050 females
<i>Phrynosoma hernandesi</i>	2150	215	1075 males, 1075 females
<i>Phrynosoma blainvillii</i>	2200	220	1100 males, 1100 females
<i>Phrynosoma hernandesi</i>	2250	225	1125 males, 1125 females
<i>Phrynosoma macleayi</i>	2300	230	1150 males, 1150 females
<i>Phrynosoma hernandesi</i>	2350	235	1175 males, 1175 females
<i>Phrynosoma blainvillii</i>	2400	240	1200 males, 1200 females
<i>Phrynosoma hernandesi</i>	2450	245	1225 males, 1225 females
<i>Phrynosoma macleayi</i>	2500	250	1250 males, 1250 females
<i>Phrynosoma hernandesi</i>	2550	255	1275 males, 1275 females
<i>Phrynosoma blainvillii</i>	2600	260	1300 males, 1300 females
<i>Phrynosoma hernandesi</i>	2650	265	1325 males, 1325 females
<i>Phrynosoma macleayi</i>	2700	270	1350 males, 1350 females
<i>Phrynosoma hernandesi</i>	2750	275	1375 males, 1375 females
<i>Phrynosoma blainvillii</i>	2800	280	1400 males, 1400 females
<i>Phrynosoma hernandesi</i>	2850	285	1425 males, 1425 females
<i>Phrynosoma macleayi</i>	2900	290	1450 males, 1450 females
<i>Phrynosoma hernandesi</i>	2950	295	1475 males, 1475 females
<i>Phrynosoma blainvillii</i>	3000	300	1500 males, 1500 females
<i>Phrynosoma hernandesi</i>	3050	305	1525 males, 1525 females
<i>Phrynosoma macleayi</i>	3100	310	1550 males, 1550 females
<i>Phrynosoma hernandesi</i>	3150	315	1575 males, 1575 females
<i>Phrynosoma blainvillii</i>	3200	320	1600 males, 1600 females
<i>Phrynosoma hernandesi</i>	3250	325	1625 males, 1625 females
<i>Phrynosoma macleayi</i>	3300	330	1650 males, 1650 females
<i>Phrynosoma hernandesi</i>	3350	335	1675 males, 1675 females
<i>Phrynosoma blainvillii</i>	3400	340	1700 males, 1700 females
<i>Phrynosoma hernandesi</i>	3450	345	1725 males, 1725 females
<i>Phrynosoma macleayi</i>	3500	350	1750 males, 1750 females
<i>Phrynosoma hernandesi</i>	3550	355	1775 males, 1775 females
<i>Phrynosoma blainvillii</i>	3600	360	1800 males, 1800 females
<i>Phrynosoma hernandesi</i>	3650	365	1825 males, 1825 females
<i>Phrynosoma macleayi</i>	3700	370	1850 males, 1850 females
<i>Phrynosoma hernandesi</i>	3750	375	1875 males, 1875 females
<i>Phrynosoma blainvillii</i>	3800	380	1900 males, 1900 females
<i>Phrynosoma hernandesi</i>	3850	385	1925 males, 1925 females
<i>Phrynosoma macleayi</i>	3900	390	1950 males, 1950 females
<i>Phrynosoma hernandesi</i>	3950	395	1975 males, 1975 females
<i>Phrynosoma blainvillii</i>	4000	400	2000 males, 2000 females
<i>Phrynosoma hernandesi</i>	4050	405	2025 males, 2025 females
<i>Phrynosoma macleayi</i>	4100	410	2050 males, 2050 females
<i>Phrynosoma hernandesi</i>	4150	415	2075 males, 2075 females
<i>Phrynosoma blainvillii</i>	4200	420	2100 males, 2100 females
<i>Phrynosoma hernandesi</i>	4250	425	2125 males, 2125 females
<i>Phrynosoma macleayi</i>	4300	430	2150 males, 2150 females
<i>Phrynosoma hernandesi</i>	4350	435	2175 males, 2175 females
<i>Phrynosoma blainvillii</i>	4400	440	2200 males, 2200 females
<i>Phrynosoma hernandesi</i>	4450	445	2225 males, 2225 females
<i>Phrynosoma macleayi</i>	4500	450	2250 males, 2250 females
<i>Phrynosoma hernandesi</i>	4550	455	2275 males, 2275 females
<i>Phrynosoma blainvillii</i>	4600	460	2300 males, 2300 females
<i>Phrynosoma hernandesi</i>	4650	465	2325 males, 2325 females
<i>Phrynosoma macleayi</i>	4700	470	2350 males, 2350 females
<i>Phrynosoma hernandesi</i>	4750	475	2375 males, 2375 females
<i>Phrynosoma blainvillii</i>	4800	480	2400 males, 2400 females
<i>Phrynosoma hernandesi</i>	4850	485	2425 males, 2425 females
<i>Phrynosoma macleayi</i>	4900	490	2450 males, 2450 females
<i>Phrynosoma hernandesi</i>	4950	495	2475 males, 2475 females
<i>Phrynosoma blainvillii</i>	5000	500	2500 males, 2500 females
<i>Phrynosoma hernandesi</i>	5050	505	2525 males, 2525 females
<i>Phrynosoma macleayi</i>	5100	510	2550 males, 2550 females
<i>Phrynosoma hernandesi</i>	5150	515	2575 males, 2575 females
<i>Phrynosoma blainvillii</i>	5200	520	2600 males, 2600 females
<i>Phrynosoma hernandesi</i>	5250	525	2625 males, 2625 females
<i>Phrynosoma macleayi</i>	5300	530	2650 males, 2650 females
<i>Phrynosoma hernandesi</i>	5350	535	2675 males, 2675 females
<i>Phrynosoma blainvillii</i>	5400	540	2700 males, 2700 females
<i>Phrynosoma hernandesi</i>	5450	545	2725 males, 2725 females
<i>Phrynosoma macleayi</i>	5500	550	2750 males, 2750 females
<i>Phrynosoma hernandesi</i>	5550	555	2775 males, 2775 females
<i>Phrynosoma blainvillii</i>	5600	560	2800 males, 2800 females
<i>Phrynosoma hernandesi</i>	5650	565	2825 males, 2825 females
<i>Phrynosoma macleayi</i>	5700	570	2850 males, 2850 females
<i>Phrynosoma hernandesi</i>	5750	575	2875 males, 2875 females
<i>Phrynosoma blainvillii</i>	5800	580	2900 males, 2900 females
<i>Phrynosoma hernandesi</i>	5850	585	2925 males, 2925 females
<i>Phrynosoma macleayi</i>	5900	590	2950 males, 2950 females
<i>Phrynosoma hernandesi</i>	5950	595	2975 males, 2975 females
<i>Phrynosoma blainvillii</i>	6000	600	3000 males, 3000 females
<i>Phrynosoma hernandesi</i>	6050	605	3025 males, 3025 females
<i>Phrynosoma macleayi</i>	6100	610	3050 males, 3050 females
<i>Phrynosoma hernandesi</i>	6150	615	3075 males, 3075 females
<i>Phrynosoma blainvillii</i>	6200	620	3100 males, 3100 females
<i>Phrynosoma hernandesi</i>	6250	625	3125 males, 3125 females
<i>Phrynosoma macleayi</i>	6300	630	3150 males, 3150 females
<i>Phrynosoma hernandesi</i>	6350	635	3175 males, 3175 females
<i>Phrynosoma blainvillii</i>	6400	640	3200 males, 3200 females
<i>Phrynosoma hernandesi</i>	6450	645	3225 males, 3225 females
<i>Phrynosoma macleayi</i>	6500	650	3250 males, 3250 females
<i>Phrynosoma hernandesi</i>	6550	655	3275 males, 3275 females
<i>Phrynosoma blainvillii</i>	6600	660	3300 males, 3300 females
<i>Phrynosoma hernandesi</i>	6650	665	3325 males, 3325 females
<i>Phrynosoma macleayi</i>	6700	670	3350 males, 3350 females
<i>Phrynosoma hernandesi</i>	6750	675	3375 males, 3375 females
<i>Phrynosoma blainvillii</i>	6800	680	3400 males, 3400 females
<i>Phrynosoma hernandesi</i>	6850	685	3425 males, 3425 females
<i>Phrynosoma macleayi</i>	6900	690	3450 males, 3450 females
<i>Phrynosoma hernandesi</i>	6950	695	3475 males, 3475 females
<i>Phrynosoma blainvillii</i>	7000	700	3500 males, 3500 females
<i>Phrynosoma hernandesi</i>	7050	705	3525 males, 3525 females
<i>Phrynosoma macleayi</i>	7100	710	3550 males, 3550 females
<i>Phrynosoma hernandesi</i>	7150	715	3575 males, 3575 females
<i>Phrynosoma blainvillii</i>	7200	720	3600 males, 3600 females
<i>Phrynosoma hernandesi</i>	7250	725	3625 males, 3625 females
<i>Phrynosoma macleayi</i>	7300	730	3650 males, 3650 females
<i>Phrynosoma hernandesi</i>	7350	735	3675 males, 3675 females
<i>Phrynosoma blainvillii</i>	7400	740	3700 males, 3700 females
<i>Phrynosoma hernandesi</i>	7450	745	3725 males, 3725 females
<i>Phrynosoma macleayi</i>	7500	750	3750 males, 3750 females
<i>Phrynosoma hernandesi</i>	7550	755	3775 males, 3775 females
<i>Phrynosoma blainvillii</i>	7600	760	3800 males, 3800 females
<i>Phrynosoma hernandesi</i>	7650	765	3825 males, 3825 females
<i>Phrynosoma macleayi</i>	7700	770	3850 males, 3850 females
<i>Phrynosoma hernandesi</i>	7750	775	3875 males, 3875 females
<i>Phrynosoma blainvillii</i>	7800	780	3900 males, 3900 females
<i>Phrynosoma hernandesi</i>	7850	785	3925 males, 3925 females
<i>Phrynosoma macleayi</i>	7900	790	3950 males, 3950 females
<i>Phrynosoma hernandesi</i>	7950	795	3975 males, 3975 females
<i>Phrynosoma blainvillii</i>	8000	800	4000 males, 4000 females
<i>Phrynosoma hernandesi</i>	8050	805	4025 males, 4025 females
<i>Phrynosoma macleayi</i>	8100	810	4050 males, 4050 females
<i>Phrynosoma hernandesi</i>	8150	815	4075 males, 4075 females
<i>Phrynosoma blainvillii</i>	8200	820	4100 males, 4100 females
<i>Phrynosoma hernandesi</i>	8250	825	4125 males, 4125 females
<i>Phrynosoma macleayi</i>	8300	830	4150 males, 4150 females
<i>Phrynosoma hernandesi</i>	8350	835	4175 males, 4175 females
<i>Phrynosoma blainvillii</i>	8400	840	4200 males, 4200 females
<i>Phrynosoma hernandesi</i>	8450	845	4225 males, 4225 females
<i>Phrynosoma macleayi</i>	8500	850	4250 males, 4250 females
<i>Phrynosoma hernandesi</i>	8550	855	4275 males, 4275 females
<i>Phrynosoma blainvillii</i>	8600	860	4300 males, 4300 females
<i>Phrynosoma hernandesi</i>	8650	865	4325 males, 4325 females
<i>Phrynosoma macleayi</i>	8700	870	4350 males, 4350 females
<i>Phrynosoma hernandesi</i>	8750	875	4375 males, 4375 females
<i>Phrynosoma blainvillii</i>	8800	880	4400 males, 4400 females
<i>Phrynosoma hernandesi</i>	8850	885	4425 males, 4425 females
<i>Phrynosoma macleayi</i>	8900	890	4450 males, 4450 females
<i>Phrynosoma hernandesi</i>	8950	895	4475 males, 4475 females
<i>Phrynosoma blainvillii</i>	9000	900	4500 males, 4500 females
<i>Phrynosoma hernandesi</i>	9050	905	4525 males, 4525 females
<i>Phrynosoma macleayi</i>	9100	910	4550 males, 4550 females
<i>Phrynosoma hernandesi</i>	9150	915	4575 males, 4575 females
<i>Phrynosoma blainvillii</i>	9200	920	4600 males, 4600 females
<i>Phrynosoma hernandesi</i>	9250	925	4625 males, 4625 females
<i>Phrynosoma macleayi</i>	9300	930	4650 males, 4650 females
<i>Phrynosoma hernandesi</i>	9350	935	4675 males, 4675 females
<i>Phrynosoma blainvillii</i>	9400	940	4700 males, 4700 females
<i>Phrynosoma hernandesi</i>	9450	945	4725 males, 4725 females
<i>Phrynosoma macleayi</i>	9500	950	4750 males, 4750 females
<i>Phrynosoma hernandesi</i>	9550	955	4775 males, 4775 females
<i>Phrynosoma blainvillii</i>	9600	960	4800 males, 4800 females
<i>Phrynosoma hernandesi</i>	9650	965	4825 males, 4825 females
<i>Phrynosoma macleayi</i>	9700	970	4850 males, 4850 females
<i>Phrynosoma hernandesi</i>	9750	975	4875 males, 4875 females
<i>Phrynosoma blainvillii</i>	9800	980	4900 males, 4900 females
<i>Phrynosoma hernandesi</i>	9850	985	4925 males, 4925 females
<i>Phrynosoma macleayi</i>	9900	990	4950 males, 4950 females
<i>Phrynosoma hernandesi</i>	9950	995	4975 males, 4975 females
<i>Phrynosoma blainvillii</i>	10000	1000	5000 males, 5000 females

422,222 - - - - - Total

U R U G U A Y.

CATTLE:

Table \_\_\_\_\_. Number of cattle imported and exported. (Special)  
(Official reports.)

Year. Cattle imported. Cattle exported.

1874	x	100,463
1875	x	62,230
1876	x	x
1877	2	97,754
1878	2,839	110,606
1879	3,348	102,452
1880	155	85,239
1881	753	69,888
1882	2,248	65,656
1883	3,723	134,541
1884	12,551	41,464
1885	7,148	44,610
1886	7,834	40,264
1887	3,189	49,769
1888	2,776	57,575
1889	17,736	22,687
1890	77,269	35,769
1891	58,926	101,243
1892	14,267	120,035
1893	70,634	73,232
1894	155,398	84,168
1895	265,943	95,387
1896	248,583	154,017
1897	94,293	88,713
1898	251,689	30,843
1899	275,278	24,672
1900	99,029	60,572
1901	82,225	42,684
1902	92,036	55,505
1903	102,649	86,809
1904	68,599	96,830
1905	194,027	46,130
1906	39,536	87,528
1907	x	88,039
1908	x	171,390
1909	31,003	202,858
1910	10,559	143,934
1911	x	65,100
1912	x	77,444
1913	x	87,916
1914	x	33,104
1915	x	25,537
1916		
1917		
1918		
1919		
1920		



# U R U G U A Y.

## DAIRY PRODUCTS:

Table \_\_\_\_\_. Imports of dairy products. (Special).  
(Official reports)

Year.	Butter.	Cheese.	Cond. milk.	Cream.	
	#	#	#	#	
1877	42,419	244,274	2,271	x	
1878	27,879	215,610	1,634	x	
1879	58,340	271,986	2,623	x	
1880	41,526	381,775	1,433	x	
1881	33,208	1,024,594	17,178	x	
1882	46,228	304,700	5,818	x	
1883	62,509	394,758	3,302	x	
1884	44,037	403,347	6,367	x	
1885	50,854	416,954	9,559	x	
1886	41,200	322,725	6,512	x	
1887	39,853	593,004	6,984	x	
1888	52,498	598,999	5,699	x	
1889	65,410	492,993	6,298	x	
1890	45,611	560,844	9,658	x	
1891	24,117	218,663	3,168	x	
1892	18,759	179,172	3,532	x	
1893	19,215	236,831	2,180	x	
1894	21,193	214,688	3,675	x	
1895	11,947	190,784	1,697	8,366	
1896	9,555	173,372	1,396	20,421	
1897	10,617	175,980	1,314	x	
1898	7,321	159,703	2,132	x	
1899	6,689	162,909	1,094	x	
1900	7,299	175,094	4,927	x	
1901	8,005	182,869	4,012	x	
1902	6,327	161,972	2,917	x	
1903	5,902	153,813	4,467	x	
1904	1,398	118,237	3,477	x	
1905	35,569	176,808	5,018	x	
1906	40,544*	246,474*	1,543*	994,448	(*) Average of two years report.
1907	40,544*	246,474*	1,543*	x	
1908	5,721	291,093	3,261	x	
1909	10,344	399,443	12,990	x	
1910	10,399	473,389	11,288	x	
1911	13,440	587,216	21,504	777,168	
1912	x	x	x	x	
1913	x	x	x	x	
1914	x	x	x	x	
1915	x	x	x	x	
1916	x				
1917					
1918					
1919					
1920					



U R U G U A Y.

DAIRY PRODUCTS:

Table \_\_\_\_\_. Exports of dairy products. (Special)  
(Official reports)

Year.	Butter.	Cheese.	Casein.	Cream.
	#	#	#	#
1877	x	159		
1878	31	922		
1879	33	1,693		
1880	x	3,038		
1881	x	154		
1882	x	628		
1883	x	3,730		
1884	x	4,932		
1885	x	926		
1886	x	4,991		
1887	101	532		
1888	79	8,322		
1889	300	141,445		
1890	437	221,060		
1891	99	7,266		
1892	x	4,151		
1893	126	220		
1894	x	8,563		
1895	x	30,102		
1896	x	16,947		
1897	x	10,346		
1898	3,274	3,684		
1899	397	17,679		
1900	x	3,521		
1901	247	1,025		
1902	x	5,728		
1903	57,772	2,462	31,900	
1904	25,146	18,929	11,065	
1905	37,628	21,429	60,450	
1906	1,124	26,678	831	
1907	52,668*	50,302*	54,630	
1908	"	"	x	
1909	"	"	x	
1910	"	"	x	
1911	"	38,212	x	
1912	860	54,398	x	
1913	220	93,920	6,614	6,614
1914	x	28,250	x	
1915	x	x	x	
1916				
1917				
1918				
1919				
1920				

(\*) Average of 5 year period  
for butter and 4 years for  
cheese.



U R U G U A Y.

IMPORTATIONS:

TRADE WITH THE UNITED STATES.

Table \_\_\_\_\_. Importation of Dairy Products from the United States.  
(Department of Commerce Reports, U.S.A.)

Year.	B u t t e r.		C h e e s e.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
	#	\$	#	\$	#	\$
1911	x	x	x	x	10,200	853
1912	x	x	x	x	37,084	3,028
1913	x	x	x	x	x	x
1914	x	x	x	x	x	x
1915	x	x	x	x	x	x
1916	x	x	136	20	15,468	1,182
1917						
1918						
1919						
1920						



# V E N E Z U E L A.

## DAIRYING IN VENEZUELA.

(By Homer Brett, Consul, La Guaira, April, 29, 1918)

A report on Venezuelan imports of Meat and Dairy Products was published in Commerce Reports on September 13, 1917, it showed that:

	1915	1914	1915	1916
Butter:	1,727,349	958,321	958,333	690,194
Pounds	\$ 329,039	\$186,513	\$215,760	\$181,953
Value				
Cheese:			6	
Pounds	556,349	406,927	190,147	156,763
Value	\$ 44,419	\$ 34,344	\$ 38,636	\$ 41,968
Milk, condensed:				
Pounds	219,876	119,130	100,344	79,635
Value	\$ 18,322	\$ 19,937	\$ 3,353	\$ 6,937

The importation for 1913 was normal for the pre-war period and it was always considered regrettable that a nation of less than three million inhabitants where there are very probably more cows than people should be such a heavy importer of butter and cheese. The consumption was confined almost entirely to the larger cities as the poorer people who inhabit the smaller villages and the country neither need nor can afford to eat imported foods.

The constant decrease shown is due not only to high prices and the difficulty of obtaining supplies from abroad but also to increased domestic production. In 1915 Gen. J. V. Gomez established a modern creamery at Maracay. It is a complete plant and produces cheese, canned milk and cream and hog products as well as more than 1,000 pounds of butter per day. A published statement says that the milk used in this "Lactuario" is exceptionally rich in butterfat containing 4 per cent, whereas the average content of milk in Holland is from 3 1/2 to 3.8 per cent of, in other words, it takes, according to the same statement, 26 litres of Dutch milk to produce one kilo of butter whereas the same amount can be obtained from 13 litres of the milk of Maracay. The butter is sealed in tins of various

REPORT OF THE  
COMMISSIONER OF THE GENERAL LAND OFFICE

IN RESPONSE TO A RESOLUTION OF THE HOUSE OF COMMONS

PASSED IN DECEMBER 1913

1914-15	1913-14	1912-13	1911-12	1910-11
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000
£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000	£ 1,175,000

The following table shows the amount of land in the possession of the Crown in 1914-15, and the amount of land in the possession of the Crown in 1913-14, 1912-13, 1911-12, and 1910-11. The amount of land in the possession of the Crown in 1914-15 is 1,175,000 acres, and the amount of land in the possession of the Crown in 1913-14 is 1,175,000 acres. The amount of land in the possession of the Crown in 1912-13 is 1,175,000 acres, and the amount of land in the possession of the Crown in 1911-12 is 1,175,000 acres. The amount of land in the possession of the Crown in 1910-11 is 1,175,000 acres.

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sizes but for Caracas consumption it is also sold in packages of one-half pound at a price of 80 cents per pound which is much less than the present price of tinned Danish and Dutch butter" \* \* "There is no other creamery in Venezuela.

\* \* \* "The ganaderia "Santa Cruz" at Puerto Saballo breeds registered Holstein-Friesian cattle.

In all the cities and towns of Venezuela milk is sold at prices varying from 10 to 15 cents per quart, a considerable portion being goats' milk. The goats were originally of Canary Island stock but are not the equal of the present Canary goats as milkers. It is possible to obtain home made butter but the quality is poor and the making of it is unusual. Because of the steepness and narrowness of the streets in many cities milk wagons are not used, deliveries being made on horseback, but it is not unusual for cows to be led from door to door and milked in the presence of the customer. When this method is used the average purchase is only about a half-pint, the milk being drawn directly into a glass furnished by the purchaser. On these door to door trips calves always accompany the cows and are tied to one of the cow's legs while milking is going on. It is not considered safe to use milk except either while still warm from the cow or after it has been boiled.

Cheese known, or cheese of the plains, is a staple product. It is a white, porous and very crumbly cheese- though of course the quality varies- and sells at present for about 25 cents per pound wholesale. A great many of these are produced in the Paraguaná peninsula from goat's milk; sometimes they are very bad and there have been numerous instances of poisoning resulting from eating them. The Maracay creamery is now making yellow cheese of good quality.

There are no substitutes whatever in regard to the dairy industry

After the first meeting it is clear that the committee is not yet ready to make a decision on the matter. The committee will meet again on the 15th of the month to discuss the matter further.

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in Venezuela. Even the number of cattle of all kinds in the republic is variously estimated at from 2,000,000 to 8,000,000 head with the opinion of all non-native observers inclining toward the lower figures. Of these only a small percentage are ever milked at all and, of a still smaller number, is there any commercial use made of the milk or its products.

It appears fairly probable that about 15,000 cows in the entire republic are milked for commercial purposes. The annual values produced are approximately:

Milk sales in cities and towns	\$1,500,000.
Moracay butter and cheese, etc.	270,000.
Country cheeses (mainly from goat's milk)	<u>214,000</u>
	\$1,774,000.

It is difficult even to guess at the number of goats that exist in the country or that are milked regularly."



# VENEZUELA.

## Cattle:

"The estimates of cattle in this country are so untrustworthy as hardly to be worthy of quoting. The Statesman's Yearbook reported 8,500,000 cattle in 1888, from 4,000,000 to 5,000,000 in 1895, and 2,000,000 in 1900. The Bulletin of the Pan-American Union asserts that in 1909 the cattle numbered 6,000,000. A general fact, however, may be accepted, and that is that this country contains a large number of cattle, perhaps half as many as Uruguay, or one-sixth as many as Argentina. However, this country has not yet begun to figure in the world's fresh-beef trade, and is still only an exporter of beef cattle and jerked beef." (Meat Situation in the United States, Report 109, p-33, G. K. Holmes.)

Table \_\_\_\_\_. Number of cattle in Venezuela. (Various sources)

Year.	Total cattle.
1888*	8,476,300
1894**	2,351,590
1895*	4,000,000 to 5,000,000
1900*--	2,004,257
1909*--	6,000,000
1912*--	2,004,000

(\*) Statesman's Yearbook,

(\*\*) Annual Statement of the United States of Venezuela.p-163.

(---) Bulletin of Pan American Union.

(\*\*---) 1915 Year book, Dept. of Agric. U.S.A.

## Imports and Exports:

Porter's Tables, 1851, p-952-7, give amounts of exports from Venezuela. for the years 1846 to 1851.

### Exports.

Year.	Cattle.	Cheese.	Note:
1846	15,832	137,828	No record of milk products imports or exports prior to 1915 were found. The cattle exportation was given in kilos hence not comparable and not included.
1849	4,038	64,523	
1850	13,626	1,523	
1851	15,929	2,603	



# VIII 2222 11.

## Imports and Exports:

Table \_\_\_\_\_. Imports and exports of milk products. (Special)  
(Official reports)

Year.	Imports.			Exports.		
	Butter.	Cheese.	Cond. milk.	Butter.	Cheese.	Cond. milk.
	\$	\$	\$	\$	\$	\$
1915	566,762	192,081	23,911	220	4,610	x
1916						
1917						
1918						
1919						
1920						

## TRADE WITH THE UNITED STATES.

### Importations:

Table \_\_\_\_\_. Importations of milk products from the United States.  
(Department of Commerce reports, U.S.A.)

Year.	Butter.		Cheese.		Condensed milk.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.
	\$	\$	\$	\$	\$	\$
1911	653,983	109,506	1,807	236	5,246	439
1912	679,517	137,266	3,049	530	6,385	546
1913	776,641	150,004	3,136	607	23,231	1,931
1914	407,686	68,955	1,712	317	13,441	1,036
1915	235,570	44,797	10,363	2,110	17,177	1,359
1916	38,688	11,155	84,848	14,868	91,062	6,241
1917						
1918						
1919						
1920						







Gaylord Bros.  
Makers  
Syracuse, N. Y.  
PAT. JAN. 21, 1908

